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Editorials

ALERTNESS AND LEVELHEADED LEADERSHIP ARE NEEDED AMONG AMERICAN DOCTORS

Minnesota Medicine is given credit for the following:

One possibility is sensed by all who visit Washington. If the United States should be drawn into war—and returning congressmen do not dismiss that possibility lightly—then medicine will be one of the first departments of civil life to be subjected to emergency dictatorship. Members of the Medical Reserve Corps and all of the younger physicians will be conscripted for war service. Medical services at home will be proportionately demoralized and those who remain will be under emergency orders to go where they are needed most.

The dislocation of medical services will be far greater in case of a new war than it was in 1917 because War Department plans for the draft are said to be far more complete and far reaching. They will, in all probability, be put into effect immediately. The effect upon civilian services will be equally immediate and disastrous, unless the government steps in.

The question is: will the government step out? *To some observers, it seems unlikely that physicians will regain complete freedom of practice when the emergency is over.*

In any case, there are no ready made answers to the questions that the current crisis will present to the world. One thing alone is certain: Alertness and levelheaded leadership are needed among American doctors.

HAPPY NEW YEAR

The seasonal phrase *"HAPPY NEW YEAR"* mocks the ears and hearts of men with the echoes from maddened Europe and the tremors of an America harassed by a bad attack of economic and political indigestion.

We realize that we are in the presence of a great social and economic upheaval, that nations are being made, unmade and remade. That the

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medical profession will to a great degree be caught in the sweep of forces beyond its control; that it is potent and responsible for the part it shall play in the new order of things. For all of us it is bound to be a strenuous time of readjustment; it is also an unequalled time for surveying the future of medicine and formulating plans for rational development.

Ever since the close of the World War—a conflict that instead of ending war among civilized peoples, actually laid the sticks for a fresh conflagration—men have hugged to their bosoms the slogan, "RETURN TO NORMALCY."

To some, such an achievement seems further away today than it has at any hour since that when Plymouth Rock became the symbol of the most rational democracy that history records.

Medical dogma insists that until a patient is in the final stages of dissolution, a physician shall never abandon his optimism. "While there is life there is hope."

So this dogma should correlate with every wish expressed for a "happy NEW YEAR."

Properly epitomized the balance swings less evilly than first glance indicates. True, probably ninety per cent. of America's practicing physicians sit today in a wilderness of oppressively high taxation, encroaching lay domination, increasing bureaucratic control, hampering legislation, uncollectable accounts, and the encumbrance of a mortal body as well as the human frailties of ordinary men.

Remember that each and every one of these burdens can be lifted if the proper leverage is employed to rid the profession of such incubi. *"They who live by the sword, shall die by the sword"* is ably paraphrased into the pronounciamento that *"They who live by the ballot may win and rule by the ballot."*

Right of suffrage and power of individual opinion formed the milk upon which the United States of America was first nourished and first thrived. Of late years it has become the habit of too many Americans, especially of professional men, to neglect this gift of gifts. The ballot has developed into the plaything of politics. Thus cast out from the hearts of able men, it has evolved into a sad and wanton thing—a destructive rather than a fundamental force of expansion.

When professional men, especially physicians, recognize that public office must receive as much scientific attention as public health, and interest themselves again in the laws of the land, the lawmakers and the law enforcers, the problems of medical practice and of medical economics will be simplified to the point of solution.

Then and then only can it be expected that the un-American doctrines of communism and rebellion, paganism and brute force, ignorance and irrationality will be banished from the United States.

As a nation, we have left our fences unrepaired, our gates unguarded. We have welcomed the oppressed of other lands, only to discover that their chief baggage has been the seeds of what was their oppression, and which they have without conscience sown with destructive prodigality. Instead of Class Rule and by class here is meant that broad sense of freedom pivoted upon a sense of personal responsibility that made America great—these traitorous guests would inflict upon us Mass rule or the domination of the mob.

Any man who has read of the fight that Finland, small, doughty and honest nation, has made this past month to protect her homes and her tenets must realize anew and enviously the necessity for "hearts of oak" and souls of steel. Finland's courage is shining like a star out of the Continent's carnage and revives in men worth while the knowledge that for every venomous unreasoning hate there can be and must be substituted human wholesomeness and a true sense of the fraternity of man.

With this truth emphasized and the immediate necessity for *American action*, concerted and efficient, borne in upon every United States citizen who merits that name, *sanity* will return to the world, or at least to that part of it that was born in 1776!

Personal responsibility, a willingness to work and decency of ideas and conduct, are essential for human wholesomeness. In such a condition there is no place for that license which is the soul of communism, and which disregards those teachings of the centuries that insist upon self-discipline and unremitting restraint.

From such discipline, from such restraint, and from all the other fibres of a true democracy, are bred men. Findland's *men* have upset the world's ideas of Russia's *man-power.*

Quoting a Finnish American professor of economics, "Russia held herself to be a nation of generals, with every man smarter than the next one. That's sovietism. Finland knew that what is needed is a few men smarter than the rest of them and all men disciplined and so a nation of soldiers; of men who are cognizant of human interdependability and sensible of the concepts of God. That is Americanism."

Here in the very shrine of a democracy those sacred fires must not be let expire. It is the duty of every citizen born or naturalized in the United States, and especially of American physicians, to feed those democratic fires by judicious use of the ballot. It is the sworn and holy duty of all medical men to save life. The profession breaks that vow when it neglects to employ the ballot, that instrument that venerates human life and toils indefatigably for its preservation, and instead sits in negligence whole those forces that hold men as merely cannon fodder and woman only as a flesh-and-blood factory for the purpose of manufacturing such a product everywhere flourish and invade.

The new decade of the century should go down in history as a fresh and purposeful "Roaring Forties." Clamor of the next ten years should be the vociferousness bellowing of an enraged lion putting to rout insidious enemies that threaten his life and his freedom.

"DUTY" is the watchword of the new decade; duty to ourselves, to our science, and to our nation as well as to all humanity.

With the first performance of the initial steps of this task will come the feeling of strength and power and contentment that will bring to pass a truly "Happy New Year."

Get Busy, Doctor! Find out at the next meeting of your medical society what organized medicine can and must do with that basic weapon of democracy—the ballot.

When you and your society so act, then "Happy New Year" will become not a phrase, but a fact.

THE DE-PERSONALIZATION OF MEDICAL SERVICE

"Jolted by economic catastrophe society has become disordered, political parties have new bases for alignment, labor has become increasingly powerful, capital enterprise has been looked on with disfavor and medicine has ceased to be an independent priesthood, a law unto itself. Perhaps we draw too simple an analogy when we see that the people are coming to look upon medical care as a public utility, like electric power, needed by everyone and necessarily available to meet that need." This quotation from an editorial in the November, 1939, issue of the *Kentucky Medical Journal* states, we believe, the most important flaw in any scheme of governmental domination of medical service. For as soon as medicine becomes an arm of the government it will be a service—almost a utility—to be plugged into and used in an impersonal way. It is this de-personalization of medical practice which would produce the greatest distress to the citizen. He may not be concerned about the economic status of the physician but he can not help but be affected by a movement away from that type of service which he has always demanded. For the personal relationship has always dominated the individual in the choice of a healer. Not only the sick but the well, not only lay persons but physicians tend to seek out a personal authority; each may find his choice completely satisfying because of the personal relationship. This has been variously called "attention" or "service." The psychologist speaks of it as the establishment of "rapport"; the religionist may relate it to "brotherly love" or to "worship." This personal relationship is often established through such attention as is expressed in the "laying on of hands." In this way various cultists and masseurs have probably convinced patients of their *personal interest* in them. As soon as the patient is convinced of the establishment of this personal relationship, regardless of who sets it up, he is in a mental position for a "cure."

This personalization of medical care is no recent development in our practice. It is as old as man. One of man's first social necessities was that of worship. As he became more civilized he developed "personal" gods—gods of his own likeness but with supernatural attributes. Likewise as civilized man became ill he sought out a *person* in touch with the appropriate god of healing—Apollo, for instance—to restore his health. Gradually the physician and not the god became in the mind of society endowed with mystic healing power which arose within him alone. His pronouncements bore great authority.

Should he say powdered unicorn horn was the ideal treatment then powdered unicorn horn was necessary.

It is to be borne in mind that the patient by his desire and from his necessity created the personalization of medical service. He could not tolerate a lack of power or evidence of a lack of complete knowledge in his doctor. Doubtless the early physician who openly carried on research thereby admitting limitations of his knowledge, exposed himself to the economic dangers of a failing practice and to the imprecations and threats of those who believed him to be incompetent and a humbug. However healers from the earliest times took on investigation or research occupations and we admit our debt to Hippocrates, Galen, Vesalius and a subsequent host.

As civilization progressed into the Renaissance and modern times the fallibility of man and the lack of his knowledge became increasingly known. Coincidentally the search for facts became widened and greatly intensified. Authority tended not to center in individuals or personalities so much as it did in factual accumulation. The result eventually was to place "ability to heal" in the centers of accumulation of knowledge. Schools and attached hospitals steadily assumed greater and greater importance in the business of healing. As the institutionalization of medical service developed, independent hospitals and, later, clinics shared in the position of authority in matters of disease. Yet while all this de-personalization of medical service was going on there was parallel with it a continuing *demand for personal care*. People can no more be dispossessed of this desire than they can be separated from their tendency to worship.

We must admit that cultists, faddists and charlatans have thrived on the need of persons for individual care even in medical centers and particularly where medical care was administered with "scientific" detachment. Hospitals, clinics, and medical schools may not have realized the trend away from individual care for the patient but the administrators of these institutions never forget the place of "individuals" in their organizations. As physicians of striking capacity emerge here and there from the general group they are sought after by these institutions and become busy. But their opportunities for personal service generally become diluted with administrative responsibilities or with teaching. The result is the transfer of their large responsibilities for patients to assistants who then become the persons upon whom the patients depend. Thus it is true that the great men in large centers are frequently not in reality the persons immediately affecting the patients. They disperse patients about them and an intended strong personal relationship is thwarted or sidetracked. A further factor which has tended to defeat the individual's search for personal care in modern times is the delegation of work. The patient may be unnecessarily routed through specialists, technicians and pharmacists. And unfortunately these very assistants may be quite necessary due to the complexity of their indicated services. These events and procedures surrounding the work of the outstanding institutional physician are nothing more or less than *regimentation*—a, to him, beneficent regimentation set up to make his time as scientifically effective as possible. Obviously it interferes with personal care; very decidedly it is less regimentation than would occur under political control.

What direction shall we take? Is increasing specialization (with attendant decreased personalization) the inescapable trend of medical practice? There are certain signs that this is not true. In the past, analysis of every field of medicine has been the method of learning and sometimes unfortunately the only method of approach to the patient. Where analysis is the chief technique many persons—specialists—are required to deal with the complexity of data. Once these separate facts are understood in relation to the whole organism a synthesis of information occurs. It now appears that the development of fundamental information has progressed to a point at which the newly trained practitioner can without many doubts about the value or completeness of his knowledge proceed to care for patients with personal conviction and assurance. *An intense personalization of medical care is now beginning.* Doubtless the evolution of studies in physiology and psychology gives birth to this trend. The next thirty years can not help but witness the general use of information developed in these two fields in the last thirty years. But the *personal relationship*

is the only means medicine has of developing the ultimate use of its synthesized knowledge.

Lay people appreciate these facts in a general way. We must extend their understanding of this matter—perhaps in the terms of an editorial in the Leavenworth Times May 4, 1939. "The relation of a doctor to his patient is one of the closest of human relationships. There is an intimacy that grows up there with which nothing must interfere. Yet the government proposes to disturb this sacred relationship. . . ."

THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

Today the medical and health functions of the United States are divided among a multiplicity of departments, bureaus, and federal agencies. Thus, the United States Public Health Service is in the Federal Security department; the Maternal and Child Welfare Bureaus in the Department of Labor; the Food and Drugs administration in the Department of Agriculture; the Veterans' Administration and many other medical functions are separate bureaus of the government. The WPA, CCC and PWA are concerned with a similarity of efforts in the field of preventive medicine. The Federal Works Administration and the Federal Housing Administration also have some medical functions.

Since 1875, the American Medical Association has urged the establishment of a single agency in the federal government under which all such functions could be correlated in the interest of efficiency, the avoidance of duplication, and a saving of vast sums of money. Such a federal health agency, with a secretary in the cabinet, or a commission of five or seven members, including competent physicians would be able to administer the medical and health affairs of the government with far more efficiency than is now done.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

The physicians of the United States have given freely of their time and of their funds for the care of the sick. Their contributions to free medical service amount to at least $1,000,000 a day. The physicians of this country have urged that every person needing medical care be provided with such care. They have urged also the allotment of funds for campaigns against maternal mortality, against venereal disease, and for the investigation and control of cancer. The medical profession does not oppose appropriations by Congress of funds for medical purposes. It feels, however, that in many instances states have sought aid and appropriations for such functions, without any actual need on the part of the state, in order to secure such federal funds as might be available. It has also been impossible, under present technics, to meet actual needs which might exist in certain states with low per capita incomes, with needs far beyond those of wealthier states, in which vast sums are spent.

It is proposed here simply that Congress make available such funds as can be made available for health purposes; that these funds be administered by the federal health agency, mentioned in the first plank of this platform, and that the funds be allotted on proof of actual need to the federal health agency, when that need be for the prevention of disease, for the promotion of health, or for the care of the sick.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

Obviously if federal funds are made available to the individual states for the purposes mentioned in the second plank of this platform, there might well be a lessened tendency in many communities to devote the community's funds for the purpose, and, in effect, to demand that the federal government take over the problem of the care of the sick. Hence, it is suggested that communities do their utmost to meet such needs with funds locally available before bringing their need to the federal health agency, and that the federal health agency determine whether or not the community has done its utmost to meet such need before allotting federal funds for the purpose.

4. The development of a mechanism for meeting the needs of expansion of preventive

medical services with local determination of needs and local control of administration.

The medical profession is not static. It wishes to extend preventive medical service to all of the people within the funds available for such a purpose. Obviously, this will require not only a federal health agency which may make suggestions and initiate plans, but also a mechanism in each community for the actual expansion of preventive medical service and for the proper expenditure of funds developed both locally and federally. In the development of new legislation such mechanism may be suitably outlined.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

The medical profession does not yield to any other group in this country in its desire to extend medical care to all of those unable to provide themselves with medical service. The American Medical Association through its House of Delegates has already recognized the possible existence of a small group of persons able to provide themselves with the necessities of life commonly recognized as standard in their own communities, but not capable of meeting a medical emergency. It is recognized, however, that only persons of the same community fully familiar with the circumstances can determine the number of people who come properly under such classification and that only persons in actual contact with such instances are capable of administering suitably and efficiently the medical care that may be required. Hence it is the platform of the American Medical Association that medical care be provided for the indigent and the medically indigent in every community but that local funds to be first utilized and that local agencies determine the nature of the need and control the expenditure of such funds as may be developed either in the community or by the federal government.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

In the so-called National Health Program it is asserted that one-half the counties of the United States are without suitable hospitals, and vast sums are requested for the building of new hospitals. In contrast, reputable agencies within the medical profession assert that there are only 13 counties more than 30 miles removed from a suitable hospital and that in 8 of those 13 counties there are five people per square mile. In the United States today the percentage of hospital beds per 1,000 of population is higher than that of any other country in the world. This fact is completely ignored by those who would indulge in a program for the building of great numbers of new hospitals.

Moreover, it seems to be taken for granted that hospital building has languished in recent years, whereas considerable numbers of hospitals have been built with federal funds by various state agencies and also by the PWA, the WPA and by the Federal Works Administration.

Analyses may indicate that in many instances such hospitals were built without adequate study as to the need which existed or as to the possible efficient functioning once it was erected. Moreover, there is evidence that in recent years many of the hospitals of the United States known as nonprofit voluntary hospitals have had a considerable lack of occupancy due no doubt to the financial situation in considerable part. It seems logical to suggest then that such federal funds as may be available be utilized in providing the needy sick with hospitalization in these well established existing institutions before any attempt is made to indulge in a vast building program with new hospitals. In this point of view the American College of Surgeons, the American Hospital Association, the Catholic Hospital Association, the Protestant Hospital Association and practically every other interested voluntary body agree.

Again it has been argued that the demands for medical care in some sections of the country might require the importation of considerable numbers of physicians or the transportation of numbers of physicians in the areas in which they now are to other areas. In this connection it would seem to be obvious that a change in the economic status of the communities concerned would result promptly in the presence of physicians who might be seeking locations. The utilization of existing qualified facilities would be far more economical than any attempt to develop new facilities.

7. The continued development of the private

practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

In the United States today our sickness and death rates are lower than those of any great country in the world. This fact was recognized by the President of the United States when he sent the National Health Program to the Congress for careful study. The President emphasized that a low death rate may not mean much to a man who happens to be dying at the time of tuberculosis. The medical profession recognizes the importance of doing everything possible to prevent every unnecessary death. At the same time it has not been established by any available evidence that a change in the system of medical practice which would substitute salaried government doctors for the private practitioner or which would make the private practitioner subject to the control of public officials would in any way lower sickness and death rates.

There exists, of course, the fact that some persons are unable to obtain medical service in the circumstances in which they live and that others, surrounded by good facilities, do not have the funds available to secure such services. Obviously here again, there is the question of economics as the basis of the difficulty and perhaps lack of organization in distribution of medical service and a failure to utilize new methods for the distribution of costs which might improve the situation.

The medical profession has approved prepayment plans to cover the costs of hospitalization and also prepayment plans on a cash-indemnity basis for meeting the costs of medical care. It continues, however, to feel that the development of the private practice of medicine which has taken place in this country has led to higher standards of medical practice and of medical service than are elsewhere available and that the maintenance of the quality of the service is fundamental in any health program.

8. Expansion of public health and medical services consistent with the American system of democracy.

Careful study of the history of the development of medical care in various nations of the world leads to the inevitable conclusion that the introduction of methods such as compulsory sickness insurance, state medicine and similar technics results in a trend toward communism or totalitarianism and away from democracy as the established form of government. The intensification of dependence of the individual on the state for the provision of the necessities of life tends to make the individual more and more the creature of the state rather than to make the state the servant of the citizen. Great leaders of American thought have repeatedly emphasized the fact that liberty is too great a price to pay for security. George Washington said, "He who seeks security through surrender of liberty loses both." Benjamin Franklin said, "They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety."

In these times when the maintenance of the American democracy seems to be the most important objective for all the people of this country, the people may well consider whether some of the plans and programs that have been offered for changing the nature of medical service are not in effect the first step toward an abandonment of the self-reliance, free will and personal responsibility that must be the basis of a democratic system of government.

TRY TO WRITE AN EDITORIAL

Quite apropos is an editorial that appeared under the above title in the current issue of MEDICAL ANNALS:

There are a few things that physicians would rather he capable of doing well than to write and speak effectively. These accomplishments, however, are realized by comparatively few medical practitioners. Perhaps this is just as well for if every physician were occupied with translating his thoughts into the written and spoken word one can conjecture the appalling consequences to readers, not the least of which would be acute mental indigestion.

What inspired these generalizations was a discussion of the recent Conference of Secretaries and Editors held in Chicago. One session of the Conference was devoted to a discussion of state medical journals. Considerable attention was given to editorials and the qualities which make them worth reading. Several editors present spoke on the subject but none more effectively than Dr. Morris Fishbein, who with his usual eloquence stated what he thought an editorial should be.

It was during Dr. Fishbein's remarks that the inspiration came for this editorial. Why not suggest to physicians who read the Medical Annals that they try their hand at writing editorials? Now, it might seem that this is a bold and somewhat dangerous suggestion but the editorial staff of the MEDICAL ANNALS is not as naive as might be thought. Neophytes in editorial writing who decide to make a contribution are due for an enlightening experience. They will learn for the first time that writing involves real labor and that facility of expression is only attained by much effort. Long before they have given birth to their literary efforts they will, if they have any critical sense, have learned how difficult it is to transfer an idea to a sheet of paper in such a way as to portray vividly what they had in mind. At least that is the belief of your editorial board. Why then urge this effort? Well, in the first place, the experience will be worth something. Of more importance, there will be a greater appreciation of the efforts which go into the making of a medical journal. Of course, there are some hardy souls who will eventually contribute an editorial worth while to the MEDICAL ANNALS or to some other journal. And then, of course, there are those few in every medical group who are capable of writing effectively.

No, editorials do not write themselves. The best way to prove it is to try to write one.

PAPERS FOR THE 1940 ANNUAL MEETING

The 1940 annual meeting of the Illinois State Medical Society will be held in Peoria on May 21, 22, 23, 1940. This will be the Centennial Meeting of the Society and those responsible for the success of the meeting are planning an unusual program.

The Committee on Scientific Work composed of the Chairman and Secretary of each of the Scientific Sections held a meeting in Chicago recently to discuss tentative plans for the 1940 program. There will be more general sessions next year than for past meetings, and a few changes in the usual routine. These changes will be announced in the near future.

Any member of the Illinois State Medical Society who desires to present a paper before any of the Sections is requested to get in touch with the proper Section officer as soon as possible. Give the subject you desire to discuss, send a short synopsis of the subject matter, and be sure to write the proper section officer. The list will be given in this article.

Owing to the fact that the papers to be presented before each section must be limited in number the officers of the Sections are anxious to schedule only those papers which in their judgment will be of greatest general interest to all members. They must necessarily be critical in making these selections.

OFFICERS OF SCIENTIFIC SECTIONS

Section on Medicine: Edgar M. Stevenson, Chairman, Bloomington; W. O. Thompson, Secretary, 700 North Michigan avenue, Chicago.

Section on Surgery: Frederick Christopher, Chairman, 2650 Ridge avenue, Evanston; Charles L. Patton, Secretary, Springfield.

Section on Eye, Ear, Nose and Throat: Frank W. Brodrick, Chairman, Sterling; Thomas D. Allen, Secretary, 122 South Michigan avenue, Chicago.

Section on Public Health and Hygiene: John J. McShane, Chairman, Springfield; N. O. Gunderson, Secretary, Rockford.

Section on Radiology: Warren W. Furey, Chairman, 6844 Oglesby avenue, Chicago; Harry W. Ackermann, Secretary, Rockford.

Section on Pediatrics: H. Wm. Elghammer, Chairman, 5307 Hyde Park boulevard, Chicago; Bert I. Beverly, Secretary, 715 Lake street, Oak Park.

Section on Obstetrics and Gynecology: W. A. Malcolm, Chairman, Peoria; Herbert E. Schmitz, Secretary, 25 East Washington street, Chicago.

Any member of the Illinois State Medical Society who would like to present a paper before any of these sections should write to either the Chairman or the Secretary of the Section in which he is interested. One of the officers of each Section resides in Cook County, and the other in the downstate area, and it is desirable for Chicago members to write the Chicago officer, and the downstate doctors should write the downstate official in order that the papers may be fairly well divided between the two groups.

The matter of selecting speakers to appear on the Scientific Programs lies entirely in the hands of the section officers. They alone should be

contacted by any member desiring to appear on the programs.

There will be a number of speakers scheduled to appear at general sessions, which means that all sections will join for a meeting, and have subjects scheduled which are not highly technical but of general interest to all physicians.

In writing to the proper section officer you should send your name and address, the title and subject you desire to discuss and an outline or synopsis of the subject matter of your paper. This will better enable those who are responsible for the development of the program to make a selection for a well balanced group of papers.

The section officers who are responsible for the selection of papers to be scheduled before their respective sections, the local committees of the Peoria Medical Society and their Committee on Arrangements, and the officers and committees of the Illinois State Medical Society are all anxious to arrange an outstanding meeting to celebrate the one hundredth anniversary of the founding of the Society.

There will be an unusual number of fine scientific exhibits of general interest to physicians. In addition, the Hall of Health will be held in a separate building a few blocks away from the meeting places. This group consists of dozens of health exhibits of interest to the public. There will be no admission charge. It will be widely publicized in and around Peoria.

The preliminary program for the 1940 annual meeting will be published in the April ILLINOIS MEDICAL JOURNAL. The official program will appear the following month. This means that the officers of sections who are responsible for the development of the various programs must get their speakers as early as possible.

A LAWYER LOOKS AT STATE MEDICINE*

In this issue we give the appraisal of State Medicine from an eminent attorney, Mr. L. L. Bomberger, President of the Indiana Bar Association, the extract being taken from an article published in the March Journal of the *Indiana State Medical Association.* It is interesting to note that opposition to any form of socialized medicine comes as a rule from clear thinking people and not from those whose opinions are swayed by emotions or biased by paternalism.

"Practically all that is said for the socialization of medical service rests upon emotional reactions; naturally, much that is said against it has the same basis. Aside from that of spiritual adviser and communicant, there is probably no other relation which men sustain to one another which lends itself so readily to the emotional appeal as that of physician and patient.

"It is easy to depict suffering; it is, alas, too easy to find it. It appeals to our sympathies and, therefore, is not only described with great ardor and intensity, but is calculated to work the hearers into a state of fervent resolution, little short of religious revival. This is only too apparent in most of the arguments for enlisting physicians in the public service.

"No advocate of socialized medicine has attempted to deny what obviously he must admit, namely, that the aggregate of human suffering in America for any period by reason of undernourishment, lack of sufficient clothing and shelter exceeds by many fold that which arises out of inadequate medical or surgical care, at least that care to which the afflicted individual would submit if he were financially able. While conditions in a Utopia giving free medical care to all may not be accurately forecast, yet is it not an unfounded assumption that much of the lack of proper medical and surgical care today arises out of a choice to spend income for other things.

"If the State is to set up a system of caring for the sick in the great middle class, why not organize for their aid with respect to the prime necessities of life? It would seem just as logical to impress all purveyors of food and all clothing merchants with some form of governmental control so that the man who is to have a course in socialized medicine shall first be properly clothed and housed at public expense. Is not the difference, at least in great measures, found in the lack of emotional appeal already referred to? But who can assure us that the accomplishments of one will not lead to attempts in others, and finally, in all relations?

"When one needs legal aid, the court provides it as a part of his judicial deliberation and decision. There is no fanfare nor blare of trumpets. When the State finds it necessary to provide food, clothing or shelter for the indigent, this service is performed in a great part without undue emo-

*The Medical Bulletin. Abstract from the Bulletin Toledo Academy of Medicine April '38.

tional agitation, but as a matter of course. The thing is apparently true with respect to medical and surgical aid now furnished at public expense. The grocer and the clothing merchant are free to buy and sell in the open market. They may choose whom they will patronize and likewise select their customers. The lawyer has similar freedom.

"What, then, is the reason for an attempt to regiment physicians and surgeons as functionaries in a totalitarian state? Naturally, those who would change the system of medical service turn first to the conduct of the profession itself for the reasons they advance in support of the change; they dwell upon unprofessional-conduct of certain doctors. One of the charges is that too great a percentage of the average income is required for medical and dental service. Another, that the great middle class suffers; that not sufficient attention is given to preventive measures; that too many untrained pretended to be specialists; that no central authority now exists to compel obedience by patients. Finally, they point to the high grade of medical officers of the army and navy as compared to the average civilian physician, and clinch the argument by pointing to the public school system and saying that the subject of health and medical service should be treated in a like manner.

"A critical examination of the schemes of control proposed need not concern itself with the milder measures, for it may be assumed that the agitators will stop at nothing short of the ultimate, although the wide range of schemes proposed convinces one that there is an utter lack of reasoned conclusions. Their culmination rests in complete government control of the profession, not even limited as proposed in the Lewis Resolution. This conspicuously reflects the attitude of a military dictatorship. Physicians and surgeons are declared by its terms to be in public service and are compelled to function professionally whenever called upon. Moreover, their fees are to be controlled by the Social Security Board. This far exceeds peace-time military control of our citizenry. It actually drafts all physicians into government service. Anyone is permitted now to enter or refrain from entering the regular army. If he voluntarily enters, he knows what his compensation is to be. There are obvious characteristics of military service which clearly distinguish it from all other avocations. One of these is its demand for the full time of those engaged in it, and the physician, it is proposed, shall have a private practice; at least if he has, it is to be subordinated and compelled to give way at all times to the public demand, for being in the public service means that public demands take precedence. This is the exact end demanded by one of the writers defending state medicine (G. W. Haigh, New England Journal Medicine 202: 1078; "The functions of the civil physician become identical with those of the naval medical officer.") There is every reason to assume that if the protagonists of these measures accomplish their ultimate purpose, they will completely eradicate the physician with private practice just as fully as the employees of the post office department are exclusively paid and controlled by the government, even though they handle privately mailed and addressed letters. Power is never content, but feeds and grows upon power. The field is broad and tempting.

"The argument that there is no central authority to enforce obedience discloses the utter abandonment to socialism of those who propose the new system. It means that not only will the government control the physician and his practice, but it will regiment all the citizens and in some manner not openly described by the unpleasant word used to call soldiers to the colors, nevertheless, will actually draft all citizens into the health service. Everyone will be obliged not only to receive medical examination and care, but will be compelled to obey the doctor. Certainly this is despotic to the last degree. The power to compel obedience implies the power to punish for refusal to obey.

"Then, if it be conceded that the personnel of the medical service in the army and navy averages higher than that of the private practitioner, the answer may be found in the more rigid examinations the former are required to undergo, thus eliminating the less intelligent. Nevertheless, it is by no means conceded that the upper strata of the pyramid are occupied by those in military or naval service. It is a matter of selection. It is a matter of common knowledge that the staff of a given hospital in a large city may be far superior to the staff of another. Finally, the fallacy of this argument lies in the fact that if all physicians are in the government service, the average of intelligence and ability is no longer measured by medical officers of the

army and navy but is immediately calculated on the entire profession.

"But the final and what is apparently offered as the clinching argument is that the public school system furnishes a conclusive parallel and that its history is an irrefutable argument in favor of putting physicians exactly where school teachers are. But there are many thousands of teachers in private schools, instructing upwards of two and three-quarters millions of students of all grades. No one has yet said to the teacher that when he finishes his professional course he is immediately in government service. He may seek to enter the public school system or engage in private teaching, at his option. Socialized medicine would leave no such choice to medical students and graduates. They shall not even be allowed the freedom of choice that is permitted to graduates of West Point and Annapolis.

"But the parallel is lacking. It is the pupils in our schools, not the teachers, that constitute the involuntary portion of their personnel. The State has seen fit for its own perpetuation to educate all its citizens to a degree. This is a lawful function of public authority. It is declared in the Constitution of Indiana that:

" 'Knowledge and learning, generally diffused throughout a community, being essential to the preservation of a free government; it shall be the duty of the General Assembly to—provide, by law, for a general and uniform system of Common Schools.'

"But it is nowhere declared that all teachers are *ipso facto* public servants. If the State were to say that everyone qualified to teach school must enter the public school system and also say that every individual must have medical examination at certain intervals under penalty for failure to obey, then the public school system and socialized medicine would be more nearly parallel. This would mean that if every qualified teacher and every qualified physician is compelled to be and is in the public service, then every citizen of the State is also in the public service in the sense that school children are, for he is compelled to accept medical attention from the State even as children receive mental training. This is totalitarianism indeed with respect to these two subjects. It is an easy step then to include the lawyers, the merchants and all others because none of us can live unto ourselves. The theory behind it all must be that when we contact others in earning our daily bread we become subjects for complete control by the State. If the theory applies to one relation, it applies to another and embraces every form of human conduct.

"Of course, the State cannot compel all teachers to be in the public service. In fact it cannot compel parents to send their children to the public schools. That question has been settled, probably for all time, by the Supreme Court of the United States. The court has said that a parent may patronize a parochial school if he sees fit. This necessarily implies that teachers are free to enter private service. The public school system furnishes no precedent for socialized medicine. Moreover, in the light of the private school decisions of the Supreme Court, grave doubts may be entertained as to the constitutionality of proposed plans of socialized medicine.

"But it is said the State is interested in the health of its citizens. This is true, and if for no other reason, because the State may need healthy soldiers for its own defense.

"But bodily impairments and disease more frequently arise from, rather than do they cause, ignorance and neglect of simple rules such as those of hygiene and nutrition. Illness is apt to be the result, not the cause, of a sub-normal life. The solution lies in education of the masses of people rather than putting the physicians under semi-military rule. Nothing proposed by way of regimentation of the medical profession offers escape for the poor white of the South and his dependence upon snuff and bitters, or salvation from the nation-wide credulity that heeds radio ballyhoo and other patent medicine advertising. It does not seem to have occured to those who would take the doctors in hand, that the evils they are seeking to alleviate are not caused by the medical profession, but in the main by ignorance and suggestion, especially the vicious circle of auto-suggestion. Nor do they see that there is an avenue of relief by way of legislation to protect the foolish victims of hoaxes which the medical profession most earnestly denounces and combats.

"Of course, there will always remain the problem of the impoverished. They have always been a problem. They are now cared for at public expense. This is wise and humane. Such physicians as wish to become salaried employees of governmental agencies find the field open to them

and doubtless are content when they enter it. At any rate they are free to leave it.

"This discussion has avoided a statement of the physicians' position on this question. It is not designed as a defense of a worthy, sacrificing and enduring profession. If socialized medicine is best for the people, the physicians will be obliged to bow to it, but it may be predicted with all confidence that, if the day arrives, it will be through a leveling process that has taken individual incentive, enterprise, ambition and triumph out of the hearts of all our people and forced us into the leaden rhythm of the State's blighting goose step.

"There are definite and disturbing signs that self-reliance is on the way out. We are taking soundings in the era of irresponsibility. The extent to which, as a nation, we enter it, inevitably to pass later into its sure successor, the era of despair, depends in no small measure upon the haste and abandon with which we experiment with such nostrums as state medicine.

"Of course, it is impossible for America to change its fundamental law as embedded in its traditions and written in the Constitution so as to put the entire medical profession into the public service, but the conclusion is inescapable that in addition to numberless other evils, this will produce a vast army of malingerers and hypochondriacs. It can be done; but it is not the American way."

THE MENACE OF RATS

The unenviable position which rats have come to occupy as a proven factor in the transmission of certain diseases is well known. Their possible involvement in the transmission of certain infections whose method of communicability is at present unknown can only be surmised. The medical profession definitely realizes that rats are a menace to human beings; that there cannot be recognized a single favorable attribute of the rat; and that all that is known of the rat points to its inevitable involvement with human destiny in both an economic way and in spheres of health.

In writing on this subject in a recent issue of *Hygeia*, John M. Gibson estimates the country's rat population at twice its human population. He also estimates that each of these approximately two hundred million disease carrying rodents consumes food costing at least $2.00 a year each. The nation's annual rat food bill, therefore, amounts to considerably more than half a billion dollars.

Hans Zinsser in his book *Rats, Lice and History*, has recently emphasized an interesting fact usually overlooked by historians. He points out that the ravages of certain diseases have been able to change the course of history and determine the fate of empires. Although there is no certain historical knowledge of the rat in Europe before the twelfth century, it is highly probable that some similar form of rodent was responsible for the spread of such devastating epidemics as the bubonic plague. However, we do know that at about this time the black rat came into Europe from Asia and in an incredibly short time swept the country, although at the present time it has been replaced by the brown rat. Wherever this rat has gone, it has driven out the black rat and all rodents that compete with it. Again there is nothing that can be said in its favor. It can live anywhere and eat anything. It burrows for itself when it has to but when it can, it takes over the habitations of other animals such as rabbits and kills them and their young. It climbs and it swims. It is known to carry the following diseases of men and animals: plague, typhus, trichinella spiralis, rat-bite fever, infectious jaundice, possibly trench fever, probably foot and mouth diseases and a form of equine "influenza." Its connection with other diseases as a vector is quite possible although unproven. —Bull. Sangamon Co. M. S.

IS THE HOME SAFER THAN THE AUTO OR STREET? 'TISN'T SO

People who fell, cut themselves, received shocks, were burned or were poisoned, or who otherwise came to grief in the "safety and security" of their homes were more numerous than those who met with automobile accidents, according to the National Safety Council. It seems unbelievable, but it is a fact, for during 1938 there were 32,000 people killed as a result of automobile accidents, a decline from the previous year; there were 32,500 persons killed as a result of accidents in the home, an increase. Falls and suffocation were the chief causes.

It is easy to see why the high number of home accidents is not so well known. It has to be a pretty spectacular occurrence—like slipping on a cake of soap and sailing through a window, to make the newspaper. Any motor accident receives much space.

FOR OPEN NEWS CHANNELS

"There is nothing so important in a democracy as a free and fair dissemination of information. The telegraph, the telephone, and the radio have become almost as important as the press itself."

Reed, who was a candidate for the Democraic nomination for President in 1928, criticized the general principle of government in business.

"In any business that can be conducted by private companies, governmental management is almost invariably a mistake," he added. "Costs increase, and inefficiency in management inevitably results."

There must be but one type of medical service for all persons—rich and poor alike—medical care that is good in quality, ethical in character and suitable in amount.—*Hygeia*.

MEDICAL ECONOMICS

H. M. Camp, M. D.
E. P. Coleman, M. D.
J. H. Hutton, M. D.
J. R. Neal, M. D.
Ralph Pearis, M. D.

Edited by the Committee on Medical Economics
of the
Illinois State Medical Society
E. S. Hamilton, M. D., Chairman
Kankakee, Illinois
Address all letters and communications to the Chairman.

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C. B. Reed, M. D.
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C. E. Wilkinson, M. D.
W. M. Hartman, M. D.

Emphasizing the many contrasts between the two countries, Mexico and the United States, on a recent trip to Mexico, was the general health of the population and the sanitary conditions under which they live south of the Rio Grande. The writer observed more rickets and its sequelae than he had seen in the past twenty years. And, of course, it is notorious that the sanitary conditions are so bad that typhoid, smallpox and diarrhea are prevalent at all times. It is not surprising under such conditions that there is considerable state medicine, with talk of a great increase to include the major portion of the population. But even there, a marked difference of opinion exists as to the feasibility of any such plan. With the strength of the socialistic movement in Mexico it is not hard to believe that a more general adoption of state medicine will occur. In contrast to the fine sanitary conditions in the United States with preventive medicine being practiced here to an extent unknown elsewhere in the world, it would seem that if there is opposition to such a plan in Mexico, there should be no chance of such a change being even considered here.

Apparently there is a shift of plans at Washington in regard to the line of legislative attack on the Health front. The press of the nation ran a story on December 23rd, quoting the chief executive as favoring the building and maintaining of an indefinite number of hospitals in sparsely settled communities. There was a hint of about a hundred such hospitals to cost around $150,000 to build. This was referred to as a small amount and purported to be in accordance with the ideas of the American Medical Association, which as we all know has been opposing the comprehensive plan of the Senator from New York, Senator Wagner. Comment over the radio and in the so-called "inside dope" weekly letters sent out from Washington is of the opinion that the Wagner Bill is losing favor with the higherups and that a substitute bill may be presented at the coming meeting of Congress. This announcement in the press above referred to may be the opening gun of a flank attack. Certainly we cannot allow ourselves to be lulled into a sense of false security as long as reform is in the air at Washington and the reformers are in the driver's seat.

The subcommittee of this committee, whose preliminary report was printed in the December issue of the ILLINOIS MEDICAL JOURNAL continues to work on the problem of Health Insurance. It has made a critical study of most of the apparently more successful of the plans in operation in various parts of the United States and will report to the Medical Economics Committee, immediately following the meeting of the Council to be held in Peoria on January 7, 1940. At that time we hope to be able to adopt some general recommendation to be presented to the House of Delegates at the next annual meeting to be held in Peoria in May. This committee, particularly the Chairman, Dr. W. M. Hartman, has worked hard on this problem and deserve the commendation of the entire medical profession of the state.

The plan of holding postgraduate meetings at different points in the state is apparently working out to the satisfaction of all concerned. The first one held at Jacksonville in November was successful according to all reports. However, the one held in Champaign, on December 6, apparently was even better, according to the reports which have come to the writer from those who attended both of them. Unfortunately the personal affairs of the writer made it impossible to attend either of these meetings. However, he did help to some small extent in the preliminary planning of the Champaign meeting. We feel sure that there will be a comprehensive report on the meeting in this issue of the ILLINOIS MEDICAL JOURNAL. One of the questions most frequently asked since the Champaign meeting has been when another similar

meeting could be held in this district. With two more similar meetings to be held, one in the northern and the other in the southern part of the state, it is highly improbable that it will be possible to repeat a meeting prior to the annual meeting. It is, however, within the province of the House of Delegates to decide at their annual meeting as to the continuance of the present experiment.

A beginning has been made in holding meetings for the legal, dental and medical profession to acquaint them with the provisions of the Wagner Bill on Health. While many of the medical profession are either uninformed as to the provisions of the bill or believe in smug complacency that "it can't happen here," the other two mentioned professions are completely uninformed on the subject. Until the last few months, the legal profession did not and would not believe that their existence was in any way in danger. But some of this smugness has been rudely jarred by the statements of the Attorney General on attorneys' fees and the advisability of furnishing free legal advice to the indigent and those of work relief. Reformers stop with no one group and the sooner the professional folk of this nation awake to that fact and make a unified effort to maintain their place in society, the sooner the time of our officials at Washington will be given over to running the country in the best possible manner rather than trying to making over the people of the same both individually and collectively.

We hope that the members of the Illinois State Medical Society will give considerable thought to the problem of Voluntary Health Insurance as it is now in operation in different parts of the United States and to consider the advisability and feasibility of a similar plan in Illinois. If you have any comments or suggestions to make, kindly do so through Dr. W. M. Hartman of Macomb, the Chairman of the subcommittee, which is studying this question in all its ramifications.

The Committee wishes its readers the Greetings of the Season and particularly wishes a Prosperous New Year to each and every member of the Illinois State Medical Society.

E. S. Hamilton, M. D.,
Chairman.

Correspondence

A WARNING TO OCULISTS

Trenton, Missouri,
September 27, 1939.

To the Editor:

I am writing you regarding a man who is running around through the country buying glasses, especially from oculists, usually giving a check to the amount of $30.00. This man tries to simulate a farmer and he usually has a notation on the check for corn, cow, hogs, etc. The name on the check to him is no doubt forged and there is no doubt his indorsement on the back of the check is forged. The man is about five feet nine or ten inches tall, weighs about 155 pounds, light sandy hair, blue eyes, smooth shaven with a ruddy complexion. He is about 49 years old.

Should this man come into your office making an attempt to cash such check as the above description, unless proven to be absolutely authentic, please notify the Sheriff of Nodaway County, Maryville, Missouri, or the Sheriff of Grundy County, Trenton, Missouri.

He usually signs his name on the back of the check in a very rough, but plainly legible hand and signs it W. C. Curran, and he usually wishes the difference between the amount of the check and the price of the glasses in cash, but does not call for the glasses. Should he sign his name and such a check be presented to you, please have the sheriff to intercept him.

Should you have any information regarding a man of his description passing checks of the above description, please inform the sheriffs above named, Dr. R. C. Pearson, Maryville, Missouri, or myself.

Herbert C. Kimberlin, M. D.

PROGRESS OF THE ILLINOIS STATE MATERNAL WELFARE COMMITTEE

In 1937 the Council of the Illinois State Medical Society appointed ten physicians to form a Maternal Welfare Committee. The object of the Council was to reduce the morbidity and mortality of mothers and babies through an educational campaign conducted by this Committee.

The Committee met and realizing the vast amount of responsibility and work to be done

in the state before their ultimate goal could be reached decided to enlarge the Committee and build an organization in each county to be known as the County Maternal Welfare Committee. These committees consist of two or three physicians and a number of ladies chosen from the leading women's organizations and operate under the leadership of a county chairman who is a member of organized medicine, selected by his local medical society. There are at the present time one hundred and sixty-six members in our State Maternal Welfare Organization.

During the past two years it has been the policy of the State Maternal Welfare Committee to hold district meetings for the physicians to keep them acquainted with the program and progress of this Committee, but due to the further reduction of the maternal and infant death rates in Illinois which have reached the new low of 39 per 1,000 as compared to 60 per 1,000 in 1929 for infants, and 3 per 1,000 as compared to 6.3 per 1,000 in 1929 for mothers, these meetings have been discontinued.

The Committee now asks each county medical society in the state to cooperate with it by holding one meeting each year on the maternal welfare program, at which time the progress, work and plans of the Committee will be discussed.

It is true that as yet we have not succeeded in bringing our program to the people of the lower bracket, but it is hoped that through the efforts of our new county maternal welfare committees we will soon be able to reach those who most need our help and for whom this program was intended.

This Committee earnestly solicits the cooperation of every physician in the state by insisting on and administering adequate prenatal care to all expectant mothers, thus further reducing the infant and maternal death rates. Illinois now ranks second only to Connecticut, which has a percentage of 2.9 per 1,000, and it is our aim to put Illinois in first place.

T. B. Williamson, M. D.,
Chairman.

John F. Carey, M. D.,
Secretary.

PNEUMONIA SERUM AND LABORATORY TYPING SERVICE

Supplementary list of approved laboratories as of December 5, 1939:

DOWNSTATE SERUM AND TYPING

Olney—The Olney Sanitarium, 606-610 Main Street.

Waukegan—Victory Memorial Hospital Laboratory, 1324 North Sheridan Road.

DOWNSTATE—TYPING ONLY

Belvidere—Highland Hospital Laboratory, 1625 South State Street.

Peoria—John C. Proctor Hospital, Second and Fisher Streets.

Rockford—St. Anthony's Hospital Laboratory, 1401 East State Street.

Sycamore—Sycamore Municipal Hospital Laboratory, 615 Somonauk Street.

Watseka—The Iroquois Hospital Laboratory, South Fourth Street.

CHICAGO AREA—TYPING ONLY

Chicago—Illinois Masonic Hospital Laboratory, 836 Wellington Street.

Irving Park Clinical Laboratory, 4013 Milwaukee Avenue.

Maurice I. Kaplan, M.D. Laboratory, 4010 West Madison Street.

Molay Medical Laboratories, 185 North Wabash Avenue.

The two laboratories listed below have just been approved for Kahn and gonococcus tests:

Joslyn Clinic, 1908 St. Charles Road, Maywood.

University Research Laboratory, 143 North Wabash Avenue, Chicago.

The attached is a supplementary list of newly approved pneumococcus stations.

This information is sent for publication in your Journal.

Yours very truly,
H. E. McDaniels, Ph.D.,
Co-ordinating Bacteriologist.

LABORATORIES APPROVED FOR PNEUMONIA TYPING SERVICE

Supplementary list as of December 15, 1939:

DOWNSTATE—TYPING ONLY

Belvidere—St. Joseph's Hospital, Julien Street.

Bloomington—Mennonite Hospital Laboratory, 807 North Main Street.

Bloomington—St. Joseph's Hospital, 824 West Jackson.

Elgin—Sherman Hospital Laboratory, 934 Center Street.

Normal—Brokaw Hospital Laboratory, Franklin Avenue.

Pittsfield—P. V. Dilts, M.D. Office, 101½ East Washington.

CHICAGO AREA—TYPING ONLY

Chicago—South Shore Medical Laboratory, 2937 East 79th Street.

MISSISSIPPI VALLEY MEDICAL SOCIETY 1940 ESSAY CONTEST

The Mississippi Valley Medical Society offers annually a cash prize of $100, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. Contestants must be members of the American Medical Association who are residents of the United States. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Rock Island, Ill., Sept. 25, 26, 27, 1940, the Society reserving the exclusive right to first publish the essay in its official publication the MISSISSIPPI VALLEY MEDICAL JOURNAL (incorporating the RADIOLOGIC REVIEW). All contributions shall not exceed 5,000 words, be typewritten in English in manuscript form, submitted in five copies and must be received not later than May 1, 1940. The winning essay of the 1939 contest appears in the Jan. 1940 issue of the MISSISSIPPI VALLEY MEDICAL JOURNAL (Quincy, Ill.) Further details may be secured from

Harold Swanberg, Secretary,
Mississippi Valley Medical Society,
209-224 W. C. U. Building, Quincy, Ill.

1940 MEETING MISSISSIPPI VALLEY MEDICAL SOCIETY, ROCK ISLAND, ILL.

The sixth annual meeting of the Mississippi Valley Medical Society will be held at the Hotel Fort Armstrong, Rock Island, Illinois, September 25, 26, 27, 1940. The meeting next fall will largely consist of practical instruction courses by well-known clinicians and promises to be the most interesting in the Society's history. The officers for 1940 (Elected Nov. 19, 1939) are as follows: President, John T. Hanna, M.D., Burlington, Ia., (Elected 1938), President-Elect, E. P. Coleman, M.D., Canton, Ill., 1st Vice-President, J. C. McKitterick, M.D., Burlington, Ia., 2nd Vice-President, C. J. White, M.D., Chicago, Ill., 3rd Vice-President, E. A. Cunningham, M.D., Louisiana, Mo., Secretary-Treasurer, Harold Swanberg, M.D., Quincy, Ill., (Re-elected).

The following were also recently elected to membership on the Board of Directors of the Society:

N. C. Barwasser, M.D., Moline Ill., E. Lee Dorsett, M.D., St. Louis, Mo., Nathan S. Davis III, M.D., Chicago, W. E. Johnson, M.D., Warrensburg, Mo., S. R. Hoover, M.D., Quincy, Ill., F. E. Sultzman, M.D., Hannibal, Mo., E. C. Kelly, M.D., Peoria, Ill., C. A. W. Zimmerman, M.D., Cape Girardeau, Mo., F. G. Norbury, M.D., Jacksonville, Ill., W. C. Goenne, M.D., Davenport, Ia., Lindon Seed, M.D., Chicago, W. A. Sternberg, Mount Pleasant, Ia.

SECOND ANNUAL CONFERENCE MIDWESTERN FORUM ON ALLERGY

Palmer House, Chicago Ill.
January 13-14, 1940

Saturday evening 7 P. M. Annual "get together," with informal discussions and demonstration.

1. Kodachrome demonstration of Allergic skin lesions.
   Leader: Dr. Sam Levine, Detroit, Mich.
2. Smut Allergy (microscope demonstration).
   Leader: Dr. F. W. Wittich, Minneapolis, Minn.
3. Drug Allergy.
   Leader: Dr. Theodore L. Squier, Milwaukee, Wis.
4. Effects of Allergy on Constitution.
   Leader: Dr. Milton Cohen, Cleveland, Ohio.
5. Nasal secretion of allergic and non-allergic types (microscope demonstration).
   Leader: Dr. French Hansel, St. Louis, Mo.

Sunday 9 A. M. Crystal Room, Palmer House.
Chairman: John Sheldon, Ann Arbor, Mich.

1. Results of Atmospheric Research during 1938-1939.
   O. C. Durham, North Chicago, Ill.
2. Mold Allergy.
   Dr. Theron G. Randolph, Milwaukee, Wis.
3. The nature of various mill dust Allergens.
   Dr. F. W. Wittich, Minneapolis, Minn.
4. Allergic Purpura.
   Drs. J. Warrick Thomas and J. R. Forsythe, Cleveland Clinic, Cleveland, Ohio.
   Discussion opened by Dr. Theodore Squier.
5. Dr. Clarence Bernstein, University of Chicago, Chicago, Ill.

Sunday noon. Luncheon Room 14, Palmer House.

Sunday 2 P. M. Crystal Room, Palmer House.
Chairman: Dr. Jonathan Forman.

1. Arthus phenomenon in relation to allergy (Lantern demonstration).
   Dr. Paul Cannon, Prof. of Pathology, University of Chicago, Chicago, Ill.
2. Physiological Studies on Histamine in Relationship to Allergy (colored movie).
   Dr. Richard Young, Northwestern University, Chicago, Ill.
3. Comparative studies on Histamine and Passive Transfer reactions in Neurological patients.
   Dr. Michael Zeller, University of Illinois, Chicago, Ill.

Monday evening: Regular meeting of Chicago Allergy Society.

A MINNESOTA COURT DECIDES AGAINST THE FRATERNAL ORDER OF EAGLES

According to Minnesota Medicine, December, 1939, in the case of Re: *Fisch et al. vs. Silvertsen, et al.* the District Court of Mower County dismissed suit against Austin physician and Fraternal Order of

Eagles against the Minnesota State Board of Medical Examiners: We quote:

"On October 21, 1939, the Honorable Norman E. Peterson, Judge of the District Court for Mower County, made an order dismissing the lawsuit instituted by Herbert Matthew Fisch, M.D., of Austin, Minnesota, and Fraternal Order of Eagles, Lookout Aerie No. 703, at Austin, Minnesota, against the Minnesota State Board of Medical Examiners. Judge Peterson ordered a stay of 40 days in order to permit the plaintiffs to appeal to the Supreme Court of Minnesota, if they so desire.

"This lawsuit was instituted by Dr. Fisch and Fraternal Order of Eagles following a hearing held by the Minnesota State Board of Medical Examiners on July 6, 1939, and following a ruling by the Honorable J. A. A. Burnquist, Attorney General of the State of Minnesota, and Mr. John A. Weeks, Assistant Attorney General, that the furnishing of medical care by the Fraternal Order of Eagles at Austin, Minnesota, is a violation of the laws of the State of Minnesota, particularly those laws relating to the practice of healing and the practice of medicine. The Attorney General also ruled that Dr. Fisch, and any other doctor, who is a party to the operation of such a plan, subjects himself to disciplinary proceedings in the form of a suspension or revocation of his license as a physician and surgeon. The purpose of the lawsuit was to obtain an injunction restraining the Minnesota State Board of Medical Examiners from interfering with the operation of the plan and from taking any steps to suspend or revoke the license held by Dr. Fisch. The lawsuit was also directed against the members of the Mower County Medical Society, but the plaintiffs dismissed their case against the Mower County Medical Society when the case was called for hearing in Court.

"The plan pursued by the Eagles Lodge at Austin, is briefly as follows: The various members of the Eagles Lodge pay $12.00 per year in dues to the local aerie or lodge. Out of this amount the sum of $4.00 per year per member is allocated for medical care and this fee is split equally between Dr. Fisch, a duly licensed physician and surgeon, and Dr. Leon C. Nicholsen, a duly licensed osteopath, irrespective of which one attends the patient. The Eagles Lodge at Austin has about 1,200 members and while the constitution of the Lodge provides for the payment of $2.00 per year per member for medical care, this figure has been increased by the local aerie. The legality of this plan was questioned by the Medical Board in 1937, following which, legal counsel for the Grand Aerie of Eagles appeared before the Board and advised the Board that despite the fact that the furnishing of medical care was advantageous to the Fraternal Order of Eagles from the standpoint of obtaining members, there were certain objectionable features to the plan, and that while they would not concede that the plan was unlawful, they would terminate the plan if they were given until June 1, 1938, in order to work out other suitable benefits for the members, such as, an increase in the cash sick benefit paid by the Aerie. The Medical Board was also assured that no new aeries would be organized in Minnesota under the old plan and accordingly, the Board passed the matter for the time being. Several of the aeries thereafter voluntarily discontinued the operation of the plan, including aeries in St. Paul and Minneapolis. However, the aerie at Austin, and in two or three other communities in Minnesota, continued to furnish medical care under such a plan, which resulted in the hearing held before the Board on July 6, this year, and the subsequent ruling by the Attorney General of Minnesota. The Supreme Court of Minnesota has ruled that neither a corporation, nor a lay person, can practice law, directly or indirectly, through the medium of employing a licensed attorney to practice law for others for the benefit or profit of the corporation or layman. The Supreme Court of Minnesota stated:

" 'We are just as firmly convinced that it is improper and contrary to statute and public policy for a corporation or lay man to practice medicine in the same way.'

"The Supreme Court of Minnesota also stated:

" 'What the law intends is that the patient shall be the patient of the licensed physician, not of a corporation or layman. The obligations and duties of the physician demand no less. There is no place for a middleman.'

"Under the ylan pursued by the Fraternal Order of Eagles the aerie physician is obligated to furnish medical care, not only to the member, but to his entire family."

VIOLATION OF THE CODE OF LEGAL ETHICS

Violation of the code of legal ethics was the charge, December 1, 1939, against the Department of Justice for attempting to influence public opinion while a case is pending in Federal court. The allegation is contained in the December 1 issue of the *New York State Journal of Medicine,* official organ of 16,700 practicing physicians of the state.

The charge is based upon the twentieth rule in the Canon of Professional Ethics of the American Bar Association, which provides that public statements by a lawyer as to pending or anticipated litigation may interfere with a fair trial in the courts and otherwise prejudice the due administration of justice.

The JOURNAL commends this rule of the ethics to the attention of Assistant Attorney General Thurman Arnold and his associates in the antitrust suit against the American Medical Associaton. "From the outset of this action," states the JOURNAL, "the Department of Justice's representatives have shown a blatant disregard of the ethical canon cited above and other rules of good legal manners.

"Charles C. Pearce, a special assistant to the U. S. Attorney General, made a public address in advance of the trial in which he spoke of 'the formula of illegal procedure . . . pursued by organized medicine' as if a verdict of guilty had already been brought in. Pretrial published statements of Mr. Pearce and others were not limited to 'quotations from the records' but, as Justice James M. Proctor observed of the indictment proper,

abounded 'in uncertain statements' and 'highly colored, argumentative discourse.'

"Since the dismissal of the indictment against the A.M.A. by the Federal District Court, Mr. Arnold and his associates have continued to try this case to the public in spite of the fact that an appeal is pending. After the District Court had thrown out the antitrust charge against he A.M.A., Mr. Arnold issued a public warning to the profession not to commit acts that the Court had just declared legal. Asking the Supreme Court to waive the usual procedure and consider the case without a previous decision by the Circuit Court of Appeals, he broadly hinted that continued medical progress depended on the success of his plea.

"In certain circumstances it is conceivable that a lawyer in the government's employ cannot be bound by the same ethical principles as attorneys in private practice. Certainly, there is nothing in the antitrust suit against the A.M.A., however (except the palpable artificiality of the charge), to account for the disregard of legal ethics that Mr. Arnold and some of his associates have displayed."

ILLINOIS STATE MEDICAL SOCIETY

Committees for Annual Meeting

Peoria—May 21, 22, 23, 1940

Committee on Arrangements

Arthur Sprenger ..... Chairman
E. E. Nystrom ..... Vice-Chairman
Harold F. Diller ..... Vice-Chairman

* * *

Officers of Peoria Medical Society

Orville E. Barbour ..... President
E. Z. Levitin ..... First Vice-President
H. A. Durkin ..... Second Vice-President
C. W. Magaret ..... Secretary & Treasurer

* * *

Reception Committee

Rolland L. Green ..... Chairman
George W. Michell ..... Vice-Chairman

C. U. Collins	H. L. Pintler
R. A. Hanna	H. M. Sedgwick
A. L. Corcoran	J. H. Ulrich
E. Z. Levitin	G. U. Washburn
F. S. Davis	H. B. Knowles
A. H. Clark	J. T. Wead
W. A. Gott	E. E. Royce
D. H. Morton	J. W. Daugherty
Wm. Blender, Sr.	H. L. Williams
J. F. Sloan	E. H. Bradley
W. A. Borin	F. D. Loewen
T. S. Egan	J. C. Roberts
J. P. Sparks	Bruce Ryder
L. E. Monroe	H. E. Pintler
R. B. Roberts	G. C. Lewis
A. J. Foerter	P. A. Cusack
F. G. Hopkins	L. A. Burhans
A. A. Knapp	T. C. Coggeshall
C. G. Blake	W. T. Marrs
P. F. Jones	A. G. Eknoomou
J. E. Welsh	E. E. Henson
R. L. Eddington	A. S. Plummer

Information Committee

A. P. Kannapel ..... Chairman
Allen A. Foster ..... Vice-Chairman

E. L. Aaberg	Frank C. Green
J. M. McCuskey	Victor Williams
George M. Borin	F. C. Hammitt
F. A. Christensen	

* * *

Meeting Place Committee

E. C. Kelly ..... Chairman
Milo T. Easton ..... Vice-Chairman

F. C. Enddres	George R. Seward
J. H. Siegfried	Chas. F. Sutton
Thomas H. Sternberg	

* * *

President's Dinner Committee

E. E. Nystrom ..... Chairman
C. P. Strause ..... Vice-Chairman

F. E. Fielding	George L. Cohen
W. D. Madison	Glen I. Allen
M. E. Aaberg	

* * *

Veterans' Dinner Committee

E. A. Garrett ..... Chairman
C. D. Sneller ..... Vice-Chairman

George H. Stacy	L. C. Ives
E. Z. Levitin	Hugh E. Cooper
E. E. Nystrom	Milo T. Easton

* * *

Alumni & Fraternity Dinner Committee

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Robert M. Sutton ..... Vice-Chairman

A. H. Clark	Irving L. Turow
R. A. Slater	B. J. Heymann
Floyd W. Castator	D. M. Ernest

* * *

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O. E. Barbour ..... Chairman
W. H. Holbrock ..... Vice-Chairman

Daniel E. Bowers	Arthur E. Baker
Robert K. Dean	

* * *

Publicity Committee

C. G. Farnum ..... Chairman
Walter Baer ..... Vice-Chairman

Leslie Rutherford	L. V. Boynton
Bryan H. Trewyn	

* * *

Transportation Committee

Oliver Rian ..... Chairman
J. E. Meloy ..... Vice-Chairman

R. C. Dunseth	Joseph Ketay
H. W. Hawkins	Harry Costeff

* * *

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William Roche ..... Chairman
M. E. Harmeyer ..... Vice-Chairman

C. S. M. Koerner	W. H. Weinkauff
R. R. Citron	Joseph Belsley
Wm. Blender, Jr.	A. D. Phillips
R. M. Rutledge	Elmer W. Seaburg

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George W. Parker.....Vice-Chairman
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J. E. McCorvie — W. W. Cutter
G. M. Parker — F. M. F. Meixner
Ray W. King — Maxim Pollak
J. W. Sours — Emmet D. Wall

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David W. Fey.....Vice-Chairman
Wilbur L. Bowen — William J. Roche
L. D. Whittaker — J. E. Bellas
Robert M. Sutton — E. C. Burhans
Charles D. Branch — J. H. Bacon

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William Major.....Vice-Chairman
J. F. Duane — H. A. Durkin
C. S. Turner — Fred L. Stuttle

* * *

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W. A. Hinckle.....Vice-Chairman
John R. Vonachen

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James D. O'Connor — Walter W. King
Fred L. Stuttle — Paul T. Palmer

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William M. Cooley, Sr.....Vice-Chairman
W. A. Michael — C. J. Heiberger
E. P. Burt — Wm. M. Cooley, Jr.
Fred S. Stahmann

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Orville E. Barbour.....Vice-Chairman
F. H. Maurer — Howard R. Miller
Carl E. Sibilsky — A. E. Cohen

* * *

SECRETARIES' CONFERENCE COMMITTEE

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W. A. Michael.....Vice-Chairman
John E. McCorvie

* * *

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P. R. McGrath.....Vice-Chairman
J. F. Duane — C. V. Ward
F. F. Haas — W. M. Steele
L. M. Coffey — C. D. Sneller
E. H. Bradley — A. J. Blickenstaff
W. C. Williams — C. H. Brobst

HALL OF HEALTH COMMITTEE

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J. H. Kinnaman.....Vice-Chairman
E. S. Gillespie — Sandor Horwitz
Joel A. Eastman — Fred L. Stiers
E. L. Davis

* * *

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P. B. Goodwin — H. B. Magee
C. L. Morris

* * *

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Bryant H. Trewyn.....Chairman
Leslie Rutherford.....Vice-Chairman
James A. Walsh — S. A. Smith

* * *

SCIENTIFIC EXHIBITS COMMITTEE

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Ray W. King.....Vice-Chairman
G. M. Frye — W. H. Rietz
E. E. Howard — W. C. Kinzer

* * *

TECHNICAL EXHIBITS COMMITTEE

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Joseph Belsley.....Vice-Chairman
P. A. Cusack — Glen I. Allen

* * *

LADIES' ENTERTAINMENT COMMITTEE

Mrs. Ruth H. Trewyn.....Chairman

* * *

LADIES' AUXILIARY COMMITTEE

Mrs. Milo T. Easton.....Chairman

* * *

WOMEN PHYSICIANS' COMMITTEE

Margaret B. Meloy.....Chairman
Helen C. Coyle.....Vice-Chaiman
Mildred E. Merkle — Ethel F. Cooper
Lucia H. Lucy — Lillian L. Rich
Molly D. Robertson — Esther A. H. Stone

EDUCATIONAL AND SCIENTIFIC SERVICE COMMITTEE

Report for October, November, December, 1939

SCIENTIFIC ACTIVITIES

142 speakers were scheduled for scientific meetings.

52 different counties sponsored these programs.

Speakers were used from various sections of Illinois, from Washington and St. Louis Universities of St. Louis and from the University of Iowa Medical School.

The Committee secured all speakers for the Tri-County Medical Society, the Southern Illinois Medical Association, the North Central Illinois Medical Society.

POST GRADUATE CONFERENCES

The Committee on Post-Graduate Education and the Scientific Service Committees arranged an all day and evening clinical conference for Jacksonville in November. This meeting was attended by 117 doctors representing 45 different counties.

The program consisted of short talks by Chicago

doctors followed by discussion from downstate men. The plan proved very satisfactory.

The meeting at Champaign began in the afternoon and consisted of eleven papers, each twenty minutes in length with no discussion. This meeting was attended by 209 doctors representing 30 different counties and 65 different cities and towns.

Copies of the papers are being mimeographed and will be sent to all doctors who registered at the meeting.

The Post-Graduate Education Committee and the Educational Committee held a meeting in November with the Deans of the Chicago medical schools, the Deans of Iowa, Washington and St. Louis University Medical Schools. This meeting was very informal with each dean and each committee member expressing his ideas about what has been done and what can be done to develop post-graduate education.

The same Committee members met with representatives of the State Department of Public Health to discuss cooperation.

A new Scientific Service List of suggested speakers and subjects was printed and mailed together with a letter from the Chairman to all secretaries and presidents of county medical societies. Many compliments have been received concerning the comprehensiveness of this list.

Last fall the Committee arranged to have published in the JOURNAL each month a list of coming meetings. The list will grow as secretaries realize the importance of notifying the office of the Educational Committee of coming meeting.

AID TO COUNTY MEDICAL SOCIETIES

2,447 notices sent to doctors announcing meetings of Lawrence, Clinton, LaSalle, Hancock, Bureau, Knox, Perry, Effingham, Lee, Randolph, Monroe County Medical Societies and the North Shore Branch of the Chicago Medical Society.

This entails considerable work in the office but is being continued because of the increased attendance at some meetings. A report is being kept of meetings where speakers are scheduled by the Educational and Scientific Service Committees and while an exact attendance figure is not possible, a conservative estimate from the report cards indicates that at least 2,500 doctors attended scientific meetings in fifty-two different counties.

812 releases to Illinois newspapers regarding the clinical conferences in Jacksonville, and Champaign and the meetings of LaSalle, Clinton, Hancock, Lawrence, Effingham, Randolph, Lee and Bureau County Medical Societies.

Special publicity was given to the public meetings of the Chicago Medical Society and announcements were enclosed in all mail going from the Committee office.

NEWSPAPER SERVICE

Articles were written and approved on the following topics:

Thanksgiving 1939
Sinusitis
Tuberculosis Today
Whooping Cough Prevention
Keep Well for the Holidays
Holiday Celebrating
Cancer Control
Hiking Is Good Exercise
Keeping Fit in Winter
Tumors
Rabbit Fever or Tularemia

1,014 Health articles were sent to Illinois newspapers.
158 Health articles were sent to Chicago Newspapers.
1,651 Editorial articles were sent to newspapers.

RADIO

52 radio programs were given over Stations WGN, WJJD, WHIP, WGES, WAAF.

Copies of the programs were supplied downstate counties for rebroadcasting.

MAILING LIST

15,008 articles were sent out to the mailing list of the Committee.
131 new names were added to the mailing list, upon request.
1,596 health articles were sent to Illinois hospitals.
1,666 health articles were sent to Illinois libraries.
1,000 radio schedules were mimeographed and mailed.

SPEAKERS' BUREAU

90 appointments were made for doctors to address lay meetings.
42 meetings were downstate.
48 meetings were in Cook County.

Seven speakers were scheduled to present the annual program for the 6th District of the Illinois Federation of Women's Clubs.

Speakers were scheduled to address County Teachers' Institutes, County Home Bureaus and County Federation of Women's Clubs.

Reports on the meetings were highly satisfactory and some of them outstanding:

"Very excellent presentation. Well received and appreciated. One of the best talks of the year."

"Speaker, excellent; Subject, excellent; Group Discussion, excellent."

"A fine talk, well prepared and well received."

"I heard many compliments on this address by teachers who were present. I consider it one of the best addresses made before the 1939 Teachers' Institute."

"Subject covered in clear, concise way and has created numerous favorable impressions among teachers."

"Exactly the spring tonic that most of us need."

"This was one of the finest talks we have heard at a woman's club meeting, even a State meeting! Almost every woman came to me and told me how thoroughly they enjoyed this talk and what a pity their husbands could not have heard it."

"Excellent speaker, held audience throughout entire talk. Fine personality."

"Such an excellent and informative talk deserved a much larger attendance."

"Very good speaker and fine personality."

MISCELLANEOUS

Dr. Hutton, representing the Committee, met with a Committee of the Illinois Congress of Parents and Teachers to discuss plans for the Summer Round-Up and general cooperation between the Congress and other lay and professional groups.

The Committee has been represented at meetings o

the Maternal Welfare Committee of the State Department of Public Health.

The Committee has been invited to present an exhibit at the Mid-Winter Meeting of the Chicago Dental Society at the Stevens Hotel in February.

The Secretary of the Committee was invited to talk on the work of the Speakers' Bureau of the Educational Committee before the National Board of the Woman's Auxiliary.

The Secretary was invited to address the senior students of the George Williams College, Chicago, and to tell them about the work of the Educational Committee.

The Committee cooperated with the Irving Park Y.M.C.A. in a Health Week and furnished speakers for schools and associations in that district.

Special package library material was furnished southern Illinois high school students competing in the essay contest sponsored by the Southern Illinois Medical Association. The contest took as its subject "The Family Doctor."

Package libraries on state medicine were furnished a number of Chicago bank employees participating in debates on that topic.

Letters were sent to several hundred organizations inviting them to participate in the Hall of Health for 1940.

Package libraries were furnished many doctors.

MATERNAL WELFARE ACTIVITIES

115 notices were sent for Rock Island County Medical Society announcing Clinical Conference on Maternal Welfare.

90 notices were sent for clinical conferences on Obstetrics and Pediatrics sponsored by Perry Memorial Hospital, Princeton.

75 programs were mimeographed for clinical conferences on Obstetrics and Pediatrics sponsored by Kewanee Physicians Club.

125 invitations were sent for Clinical Conferences sponsored by Kewanee Physicians Club.

77 programs were mimeographed for Obstetric and Pediatric programs sponsored by the DeKalb County Medical Society.

125 programs were mimeographed for Obstetric and Pediatric programs sponsored by the Lake County Medical Society.

520 invitations sent for Obstetric and Pediatric programs sponsored by Lake County Medical Society.

98 invitations were sent for Obstetric and Pediatric programs sponsored by Jersey-Greene County Medical Societies.

1,000 copies of Maternal Welfare Platform prepared and sent to all County Chairmen of the State Maternal Welfare Committee.

500 copies of the New Jersey Program prepared for County Chairmen of Illinois.

21 newspaper releases were sent concerning DeKalb County Medical Society Maternal Welfare Program.

51 newspaper releases were sent concerning Rock Island Clinical Conference on Obstetrics and Pediatrics.

Respectfully submitted,
Jean McArthur, Secretary.

U. S. ARMY HAS OPENINGS FOR PHYSICIANS

Opportunities for a number of young doctors who are interested in Army careers will be open early next year, Lieut. General Stanley H. Ford, commander of the Sixth Corps Area, indicated today.

The War Department has announced an examination March 18-22, 1940, both dates inclusive, for the purpose of qualifying candidates for appointment as First Lieutenants in the Medical Corps, Regular Army, to fill vacancies occurring during the remainder of the present fiscal year. Due to the expansion of the Air Corps and Coast Defenses with proportionate increase in officers of the Medical Corps, there will be considerably more than the usual number of vacancies.

The examination is open to all male graduates of acceptable medical schools in the United States and Canada who have completed one year's internship in an approved hospital and who will not be over 32 years of age at the time it will be possible to tender a commission.

The examination will be conducted by boards of medical officers convened throughout the United States and will consist of a physical examination, a written examination in professional subjects, and a determination of the candidates' adaptability for military service.

Full information and application blanks will be furnished upon request addressed to The Adjutant General, War Department, Washington, D. C. Applicants will not be considered if received in the War Department after March 2, 1940.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY EXAMINATIONS

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting in Atlantic City, N. J., on June 8, 9, 10, and 11, 1940, immediately prior to the annual meeting of the American Medical Association in New York City.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 15, 1940. Formal notice of the time and place of these examinations will be sent each candidate several weeks in advance of the examination dates. Group A, Part II, candidates will be examined on June 8 and 9, and Group B, Part II, on June 10 and 11, 1940.

The annual dinner of the Board will be held in New York City on Wednesday evening, June 12, 1940, at the Hotel McAlpin.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, (6) Pa.

DR. JAMES G. CARR AWARDED 1939 MISSISSIPPI VALLEY MEDICAL SOCIETY'S DISTINGUISHED SERVICE AWARD

Dr. James Gray Carr, A.B., M.D., F.A.C.P., of Chicago, Secretary and Professor of Medicine, Northwestern University School of Medicine, was awarded the Mississippi Valley Medical Society's Distinguished Service Award for 1939 at the recent annual meeting

of the Society held at Burlington, Iowa. Dr. Carr was presented with the gold medal award and a certificate by the President of the Society, Dr. M. Pinson Neal, Prof. of Pathology, University of Missouri School of Medicine, at the annual banquet on September 28. The award is given annually to an active member of the Society for "unusual and distinguished service to the medical profession."

WOMAN'S AUXILIARY

County News

Cook. On Thursday, November 16th, 1939, the day preceding the annual meeting of the National Board, it was the pleasure of Mrs. Charles Segal, President, and the members of the Council of the Woman's Auxiliary to the Chicago Medical Society to entertain the Board of Directors of the Woman's Auxiliary to the American Medical Association at a Reception, Luncheon and Tour. The Ladies of the local Auxiliary welcomed their guests in a private dining room at the Palmer House. After formal introductions luncheon was served.

At 1:30 o'clock the party entered private automobiles to be taken to the Museum of Science and Industry in Jackson Park. When they arrived they were ushered into the auditorium where a short program had been arranged. The speakers were: Mr. Rufus Cutler Dawes, President of the Museum, Dr. William Allen Pusey, a Trustee of the Museum and Chairman of its Medical Advisory Committee, Dr. Philip Fox, Director of the Museum, Dr. Eben Carey, Curator of the Medical Science Exhibits of the Museum, and Mrs. Rollo K. Packard, President of the Woman's Auxiliary to the American Medical Association.

The Officials of the Museum arranged the specially conducted tour which followed the program. The exhibits in the Medical Science Section of the Museum will be opened to the public at an early date and will be the largest and most complete in this country.

North Side Branch. Mrs. Nelson Percy was hostess to the North Side Branch of the Woman's Auxiliary to the Chicago Medical Society November 20th. After a short business meeting, conducted by Mrs. Wm. H. Brown, President, Dr. Edward Ochsner gave an interesting talk on, "Legislation." Tea was then served.

"Our Hats are Off," to the North Side Branch for their generous donation of $125 for "Hygeia."

Will-Grundy County. Mrs. C. C. Winning, State President, addressed the Will-Grundy Auxiliary November 13th at the home of Mrs. Earl Steen, Joliet, Ill. Mrs. H. Worthley and Mrs. E. H. Kupke of Beecher, Ill., assistant hostesses, Mrs. C. V. Cohenour, President, presided.

Sangamon County. A very novel and interesting program was conducted at the home of Mrs. B. L. Stewart in Springfield, Ill., November 13th; Mrs. D. M. Sirca presided. A Round Table discussion in the form of an "Information Please" program was conducted by Mrs. Harry Otten. "Do We Need Compulsary Health Insurance in the United States?" and "The Evils of Compulsary Health Insurance" were the topics. The little book, "On the Witness Stand," by J. Weston Walch was used as authority for the discussion. Tea and Social Hour followed the program.

Coles-Cumberland County. The Woman's Auxiliary to the Coles-Cumberland County Medical Society held their November meeting at the home of Mrs. Claude Raines in Charleston, Ill. Mrs. L. A. Neal, President. Mrs. F. B. Goff of Charleston gave a talk on "Doctors' Hobbies."

Vermilion County. The Woman's Auxiliary to the Vermilion County Medical Society met November 7th. Dinner was served at the Methodist Church in Ridgefarm, Illinois. The business and social hour followed at the home of Mrs. S. M. Hubbard. Mrs. J. H. Williamson, President, conducted the business meeting.

Mrs. C. W. Stuart,
State, Press and Publicity Chairman.

INTERNATIONAL COLLEGE OF SURGEONS TO CONVENE

The United States Chapter of the International College of Surgeons will hold its Fourth Annual Assembly, February 11-14, 1940, in Venice, Florida. In addition to prominent American speakers, professors of surgery from Brazil, Canada, Cuba, Mexico, and Turkey will lecture. Scientific and technical exhibits will be displayed in the patio of the Florida Medical Center. A well-rounded social program has been planned for the visiting surgeons, their wives, and guests.

For any information, including the presentation of scientific papers or exhibits, please address Dr. Charles H. Arnold, Secretary to the Scientific Assembly, Terminal Building, Lincoln, Nebraska.

CIBA INSTALLS CARREL-LINDBERGH PERFUSION PUMP IN NEW LABORATORIES

Acting upon the decision of its exeutive board, Ciba Pharmaceutical Products, Inc., has officially notified the New York World's Fair that it would withdraw its displays from the Building of Medicine and Public Health and would not participate in next year's presentation.

During the 1939 session the Carrel-Lindbergh perfusion pump, more commonly known as the artificial heart, was operated by Ciba for the benefit of the many physicians and the public who attended the Fair. This apparatus is now installed in the laboratories recently completed in Summit, New Jersey, and will be on view to all visiting members of the medical profession.

Ciba also sponsored the exhibits on "The Heart and Circulation of the Blood" and on "The Glands of Internal Secretion." Because these subjects are uppermost in the public's mind, numerous invitations have been received from museums and institutions for the loan of these highly educational displays.

Plans are now under way to install the presentation on "The Glands of Internal Secretion" in the Hall of Public Health at the American Museum of Natural History located at Central Park West and 79th Street.

Original Articles

RADIUM TREATMENT OF CANCER OF THE CERVIX UTERI

FRANK E. SIMPSON, M.D.
Collaborators
J. ERNEST BREED, M.D.
JAMES S. THOMPSON, PH.D.
CHICAGO

In the treatment of cancer of the cervix uteri irradiation has practically taken the place of surgery except perhaps in very early adenocarcinoma. While x-rays are used by some, Graves states[1] "that radium is at the present the chief resource in the treatment of cancer of the cervix uteri," an opinion shared, we believe, by most surgeons.

Three topics will be briefly discussed—I Technic of radium treatment, II Prognosis, III Results.

TECHNIC. The technic, which must be varied to suit the conditions, will be described briefly as it has been discussed fully in previous papers.[2]

In a typical case our plan of treatment consists of the following procedures.

1. *Irradiation from the outer aspect of the cervix.*

The external os is often obscured by the growth. It is then impossible to enter the cervical canal without a good deal of traumatism to the tumor. Even if the external os can be seen, the cervical canal may be choked by the growth. We believe it is important therefore to irradiate first the outer aspect of the cervix in order to reduce the tumor so that the external os can be easily identified. Later the cervical canal can be entered without traumatism or dilatation.

The cervix is very gently exposed with a bivalve speculum the blades of which are 12 cm. and 14 cm. long respectively.

After insertion, the distal ends of the speculum are separated as widely as possible without traumatism in order to push away the rectum and bladder.

The open position of the speculum is maintained by the usual set-screw.

A gold plate, 4 mm. thick, fitted to the inner surface of the posterior blade of the speculum is inserted to protect further the rectum which is one of the most radiosensitive of all organs.

Three ports of entry are used—the 2 lateral fornices, and the end of the cervix.

The edges rather than the center of the growth should be irradiated. An applicator containing from 500 to 1000 mc. of radon, screened with 2 mm. of silver plus 5 mm. of rubber or gauze is grasped with an 8 inch forceps and placed carefully in one lateral fornix or against the end of the cervix.

In some cases, 10 mm. instead of 5 mm. of rubber or gauze is placed around the metallic screens holding the radon.

Normal tissues are packed off with gauze, which is very gently inserted around the radon applicator.

The speculum and forceps holding the radon applicator are *left in the vagina* during the irradiation which lasts from 15 to 30 minutes. In some cases, a treatment lasting 50 minutes may be given.

A double T. binder, dependent from the patient's shoulders, holds the speculum and the forceps carrying the radon securely in the vagina.

Treatments are given as office procedures—daily, on alternate days or less often depending on the case.

In a few days or weeks, depending upon the lesion, the external os if obscured comes into view and the cervical canal becomes patent.

Intrauterine irradiation is then given but only as a rule after irradiation from the outer aspect of the cervix has been completed.

2. *Intrauterine irradiation.*

The length and shape of the curve of the uterine canal are first determined with a uterine sound. As the carcinoma may extend above the internal os the whole uterine canal should be irradiated.

The radon, varying in amount from 500 to 600 mc., is contained in from 2 to 5 enameled silver radon tubes.

These silver tubes are inserted tandem into a moderately flexible lead tube of the following dimensions: length, 4 or more cm. depending on the length of the uterine canal; outside diameter, 4 mm.; wall thickness 1 mm.

A nickel cap, containing a hole for a ligature, screws into each end of the lead tube. The advantage of the lead tube is that it can be

readily bent to conform to the curve of the uterine canal and can then be inserted into the uterus as easily as a sound.

A single treatment lasting from 3 to 4 hours is given.

We published a description of the lead tubes mentioned above in 1926.[3]

Dosage. Dosage must be varied to suit the conditions present. The microscopic appearance of biopsied tissue is not a reliable guide to dosage. We give the dose which we believe the normal tissue will tolerate without seriously impairing its integrity.

In the lateral fornices and to the end of the cervix, a total dose of from 3000 to 6000 mc. hrs. may be given, depending chiefly on the distance of the radon from the tissues.

Treatments ordinarily extend over a period of 2 or 3 weeks.

In the cervico-uterine canal, a total dose of 1800 mc. hrs. may be given in one seance with a lead tube 7 cm. long, containing 600 mc. in 3 enameled silver tubes tandem. This dose should seldom if ever be exceeded. If the intrauterine lead applicator is shorter than 7 cm. the dose should be decreased.

Some of the advantages of the technic just described are:

1. *Infection* and discharge are rapidly lessened.

2. *Bleeding* is stopped or at least markedly diminished in the course of a few days. Sometimes slight bleeding persists until after the intrauterine treatment.

3. *The tumor is reduced* largely by the selective rather than the caustic action of radium so that inflammatory reaction in the cervix is not severe.

4. *Pain or distress* from the treatment is negligible or absent.

5. *Hospitalization is unnecessary,* patients as a rule remaining ambulatory and continuing their daily occupation.

6. *No mortality* is caused by procedures incident to treatment.

3. *Radium treatment of pelvic metastases.*

The pelvic girdle is practically always irradiated with the radium "bomb" to influence, if possible, metastases in the lymph nodes or elsewhere in the pelvis which may be present but undetected.

It is difficult to determine how much external surface irradiation with radium (or x-rays) improves the final result.

Some authors appear to have a good deal of confidence in transcutaneous irradiation.

Palliation may be achieved in radiosensitive cancer but the cure of deep-seated pelvic metastases by external surface irradiation has not been satisfactorily demonstrated.

Radium "puncture" of adjacent organs, the parametria or lymph nodes is futile and dangerous.

2. PROGNOSIS

The prognosis of cervical cancer under radium is influenced by a number of factors.

1. *Extent of the disease.* This is one of the most important factors affecting the prognosis.

Carcinoma that has extended widely when treatment is begun is naturally more difficult to eradicate.

A survey of all cases treated with radium throughout the world shows a rate of 20 to 30% of 5 year cures.

The percentage of 5 year cures rises rapidly if the cervix only is involved; falls rapidly if the cancer has left the boundaries of the cervix when treatment is begun.

2. *Clinical type.* The everting (papillomatous) type while more formidable in appearance is more amenable to radium than the inverting (ulcerated) or the sclerosing type.

3. *Histologic type.* Epidermoid carcinoma furnishes the greatest number of clinical cures. Cancers composed of transitional cells come next in frequency of cures.

Adenocarcinomas, which form, however, only 2 or 3 percent of the cases are the least amenable to irradiation. Anaplastic types of carcinoma are the most radiosensitive but unfortunately metastasize the most readily. Radiosensitivity is not therefore synonymous with curability.

4. *Infection.* The cancerous cervix is practically always infected. Procedures that dam up the discharge such as "plugging" the cervix with a string of radium tubes or packing the vagina with gauze for a period of many hours at the beginning of treatment may aid the spread of infection.

Proponents of the method of starting the treatment by dilating the cervix and inserting radium

tubes which are withdrawn and reinserted daily admit a 2% primary mortality from infection. Radium "puncture" of infected cervical cancer has resulted in death in a number of instances. We believe therefore both of the foregoing methods of treatment are contraindicated.

Vaginal douches for "cleaning up" infection are futile and unnecessary, the short powerful irradiations against the cervix just described being immeasurably more efficient.

5. *Metastases.* If carcinoma has metastasized when treatment is begun or if it is made to metastasize by injudicious examinations or treatment, clinical cure is unlikely.

We are opposed therefore to (a) traumatic examinations for determining the extent of the disease, (b) "pulling down" the cervix with the tenaculum forceps for biopsy or to test the mobility of the uterus, (c) partial operations, curettage, cauterizations, electrocoagulation, (d) dilatation of the cervix for biopsy or the introduction of radium tubes. Any of the foregoing procedures may easily add to the dangers of metastasis by setting free carcinoma cells in the lymph or blood stream.

6. *Hysterectomy.* Should hysterectomy be performed in apparently favorable cases with the idea of subsequent radium treatment?

If the cervix has been excised, the lack of muscular and connective tissue forming the tumor bed impairs the effectiveness of radium.

Hysterectomy itself has a certain mortality and there is a possibility that it may cause metastasis. Our experience with radium treatment after hysterectomy is not favorable.

Should hysterectomy be performed after apparent clinical cure under radium?

Surgeons appear to be opposed to this method. Graves states[4] that his "experience with this procedure is distinctly unsatisfactory."

7. *Dosage.* Dosage must be carefully adjusted to the conditions present.

The carcinomatous area may receive too little or too much radium treatment either by the application of radium tubes or by radium "puncture."

If too little treatment has been given at the outset, a reapplication of radium may not be effective.

If too much treatment has been given so that radium necrosis has been produced, further treatment is made difficult or impossible even though carcinoma may persist at the edges of the necrotic area.

8. *Anatomical conditions.* Anatomical peculiarities such as vaginal stricture prevent free access to the cervix thus rendering the application of radium more difficult.

9. *General conditions.* Syphilitic patients do not as a rule respond well to radium treatment. We have not found that valvular heart disease with decompensation is an unfavorable factor so far as the effects of radium are concerned.

3. RESULTS

Few things in medicine are more dramatic than the healing of the average cervical carcinoma under conservative radium treatment.

Usually the symptoms and signs disappear and patients gain remarkably in strength and weight. If fatalities occur from carcinoma they are due as a rule to metastasis; more rarely to the local disease. Death may be caused by uremia from pressure of metastatic deposits on the ureters.

In our series of 60 consecutive unselected cases (clinical and microscopic diagnosis) treated by the method outlined between June 1927 and June 1934, 24 (40%) have remained clinically free of carcinoma for periods of from 5 to 9 years.

In our series of 88 consecutive unselected cases (clinical and microscopic diagnosis), treated by the method outlined between June 1927 and June 1936, 40 (45.5%) have remained clinically free of carcinoma for periods of from 3 to 9 years. A more detailed report of these cases is now being prepared.

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KRAUROSIS AND LEUCOPLAKIA OF THE VULVA*

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The lesions of the vulva known most broadly by the terms leucoplakia and kraurosis vulvae are of considerable clinical importance. The confusion that exists concerning these conditions arises from the fact that leucoplakia and kraurosis are considered separate entities by some while others consider them but stages of the same disease. The numerous names applied to these lesions have added to the confusion. Some of the most commonly used are: leucoplakic vulvitis; leucoplakic vulvitis and kraurosis; kraurosis; leucoplakia; chronic atrophic dermatitis; ichthyosis; leucoplasia; leucoderma; scleroma anovulaire; progressive cutaneous atrophy; trachoma; leucokeratosis; leucoplakic kraurosis; leucokraurosis; white kraurosis; leukoma; and kraurosis vulvae (leucoplacia).

The first descriptions of the type of lesion to which the name kraurosis vulvae was given were essentially clinical. Subsequent microscopical studies demonstrated a variety of findings in the vulvar skin lesions that appeared white grossly and that had been clinically diagnosed kraurosis. The multitude of names then began to appear but none yet has replaced the original and more commonly used clinical terms leucoplakia and kraurosis.

In addition, the possibility of other similar skin lesions occurring on the vulva has not been adequately considered by many authors. Ketron and Ellis[1] have discussed this. They also point out that leucoplakia may frequently be superimposed on these various vulvar lesions.

The interpretation of the exact microscopic criteria necessary for a diagnosis of leucoplakia and kraurosis varies so much that further confusion results.

In this paper I shall use the term leucoplakia to indicate lesions comparable to leucoplakia of the mouth as Montgomery, Counseller, and Craig[2] have done. The term kraurosis vulvae is used to designate those lesions that are white clinically and that possess characteristic microscopic findings. It is similar to the atrophic stage of leucoplakic vulvitis as described by Taussig[3] and to the atrophic stage of chronic atrophic dermatitis as described by Adair and Davis.[4]

The outstanding symptoms of leucoplakia and kraurosis are itching, and dyspareunia. They are insignificant in comparison with the gravity of the lesion. It is the general opinion that fifty per cent. of these lesions are associated with carcinoma.

There have been 22 instances of leucoplakia and kraurosis unaccompanied by carcinoma treated surgically at St. Luke's Hospital during the years 1924 through 1938. In this period there were 10,271 hospital admissions to the Gynecological Service. This indicates the rarity of the lesions.

A study of the series presented here revealed that most of the patients were either in the menopause or were postmenopausal. In some instances the patients were under 45 years of age but each had either a postoperative menopause, a premature menopause, or an ovarian dysfunction. The youngest patient, who had been castrated surgically four years prior to the diagnosis, was 36 years of age. The reports in the literature indicate that the average age is approximately 50 years, which is consistent with the average age of the group reported here.

The etiology is still obscure, but the fact that in almost all instances ovarian dysfunction or ovarian atrophy is associated suggests the importance of the endocrines. Since the skin of the vulva is more readily influenced by ovarian secretions than is the skin elsewhere, it is reasoned that the strict localization of the lesion to the vulva further indicates the importance of the endocrines. Infection, trauma, and irritating vaginal secretions also may play a part. In a few instances syphilis has been considered the direct cause. Swift[5] has described a series of lesions that were associated with a vitamin A deficiency. The vitamin deficiency, he stated, was not due to an absence of the vitamin, but rather to an absence of the hydrochloric acid in the stomach which resulted in failure of utilization of the vitamin. Unfortunately the author

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has little microscopic evidence to indicate the changes before and after treatment. The consideration of a vitamin deficiency is, however, worthy of consideration in spite of the fact that four of the patients here reported were examined for achlorhydria and were found normal. A neurogenic origin has also been suggested.

KRAUROSIS VULVAE

Kraurosis vulvae occurs most frequently in the region of the clitoris, labia minora, perineum, about the anus, and labia majora. Montgomery, Counsellor, and Craig[2] stated that involvement of the outer labial surfaces and the inner surfaces of the thighs indicated secondary pruritus with lichenification rather than kraurosis. Several instances in this report, however, evidenced kraurosis extending onto the thighs. Microscopic examination of the resected tissues demonstrated this. This lesion is white and the tissue appears shrunken and thin. Fissures and ulcerations occur frequently. In some instances edema may produce a thickened skin. The microscopic characteristics are hyperkeratosis, atrophy of the prickle cell layer with a marked thinning of the epithelial layer, obliteration of the rete pegs, edema, inflammatory reaction in the corium, disruption of the elastic tissue, and the development of a layer of collagenous material immediately beneath the epidermis (fig. 5). The presence of lymphocytes in the epidermis has been noted repeatedly and was found in the specimens studied here. The marked irregularity of the basal layer is also consistently present.

Microscopic studies have demonstrated that all atrophic lesions of the vulva with shrinkage as observed grossly are not the same lesions and thus cannot all be classified as kraurosis vulvae. Senile atrophy is one of these. In some instances of post-menopausal atrophy of the vulvar tissues shrinkage and subepithelial fibrosis associated with marked thinning and flattening of the epidermis are found. In many there is a slight subepithelial inflammatory reaction which is not strictly abnormal. This is called kraurosis by some. A few other conditions that may be confused are white spot scleroderma, lichen planus, and lichen sclerosis and atrophicus. Photomicrographs of white spot scleroderma presented by Ketron and Ellis[1] show marked similarity to the microscopic findings in kraurosis vulvae.

The sequence of pathological events that lead to the terminal stage of kraurosis vulvae have been variously described. The interpretation of the sequence necessarily depends upon each author's conception of the term kraurosis. Taussig,[3] for instance, using the term leucoplakic vulvitis, described in the atrophic stage a lesion identical to that recorded above as kraurosis vulvae. It is preceded by a hypertrophic stage, he stated, which is identical to leucoplakia. Montgomery, Counsellor, and Craig[2] considered leucoplakia and kraurosis as separate clinical entities. Under the term kraurosis vulvae, however, they described a hypertrophic stage which they stated might be indistinguishable from leucoplakia. Many authors do not accept the conclusion that kraurosis is always preceded by a hypertrophic stage. Since the hypertrophic stage (leucoplakia) and the atrophic stage (kraurosis) are found together so frequently in the same specimen, efforts have been made by most authors to arrange them into proper sequence. Not all tissues evidence the two simultaneously, however. When only the atrophic findings were present, many concluded that the hypertrophic stage which had been present in an earlier stage of the disease had become involved in the atrophic changes and had disappeared. When only the hypertrophic changes were noted, it was thought that the disease had not progressed far enough for the atrophic changes to have manifested themselves. Such statements cannot be denied conclusively since in most specimens previous or subsequent microscopic examinations of identical portions of vulvar skin have not been made. Certain tissues, such as the following specimen, strongly suggest that hypertrophic epithelial changes do not always precede kraurosis. In one microscopic section of this specimen several changes are observed. Figure 1 shows simple senile atrophy. The epidermis is thin, the rete pegs are flattened, there is little hyperkeratosis, and in the corium there is an increased fibrosis and decrease in the number of blood vessels immediately beneath the epidermis. Figure 2 shows many chronic inflammatory cells in the corium. In an adjacent microscopic field there is edema (fig. 3). The edema, located subjacent to the epidermis, separates this structure from the underlying connective tissue of the corium. In Figure 4 the region in which edema was noted in Figure 3 is

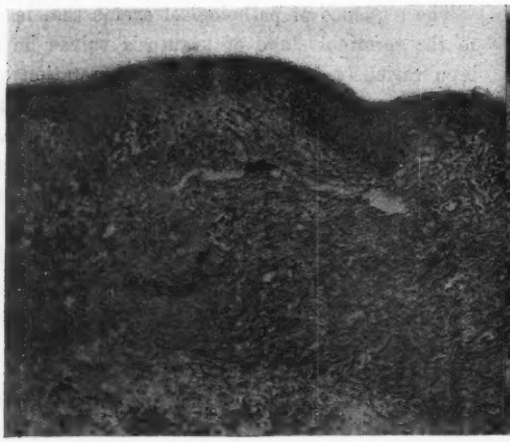

Fig. 1. Senile atrophy of vulva in region of labia minora.

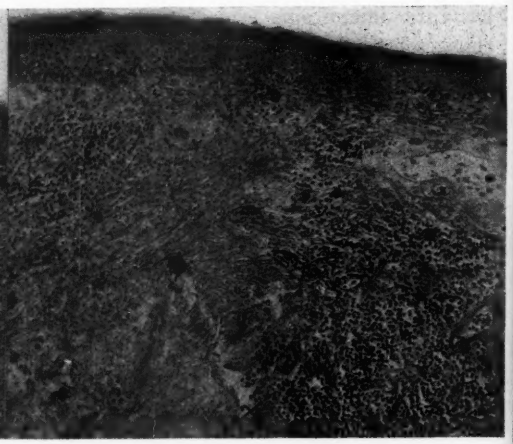

Fig. 2. Senile atrophy with inflammatory reaction in corium. Same microscopic section as shown in figure 1.

occupied by a relatively acellular, homogeneously stained mass of collagenous material. The inflammatory cells are grouped beneath this latter layer. Figure 5 shows the terminal stage of this lesion in the same microscopic section. In no portion in this specimen are there any hypertrophic changes. It is suggested that following senile atrophy, infection, edema, disruption of the elastic tissue, and marked changes in the collagen fibres may occur without any active response (hypertrophy) of the epithelium.

It seems probable that the initial pathological change in kraurosis occurs in the corium. Taussig,[6] using the term leucoplakic vulvitis, noted the first change in the elastic tissue of the papillae of the corium. In the several forms of scleroderma that resemble kraurosis, of which white spot disease is one, it has been accepted that the earliest changes do occur in the corium (Ketron and Ellis[1]).

LEUCOPLAKIA

Leucoplakia is variously described as a grey, blue, grey-white, or white lesion of the vulva involving similar regions as noted above. The skin

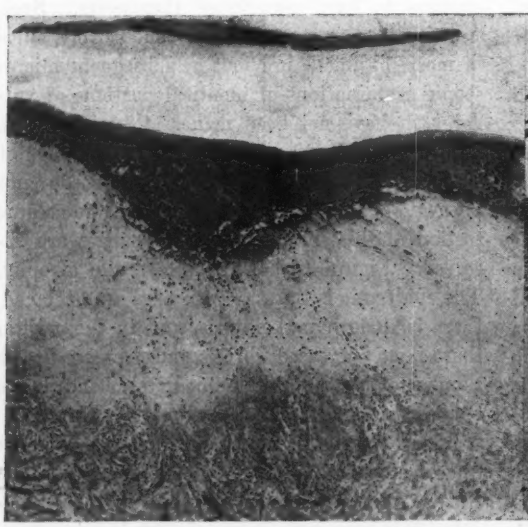

Fig. 3. Marked edema in corium subjacent to epidermis on some hyperkeratosis. Same microscopic section as shown in figure 1.

Fig. 4. Same section as shown in previous figures. Homogenously stained layer of collagen material occupies the region in which edema was noted in figure 3. A chronic inflammatory reaction is present. The hyperkeratosis is increased.

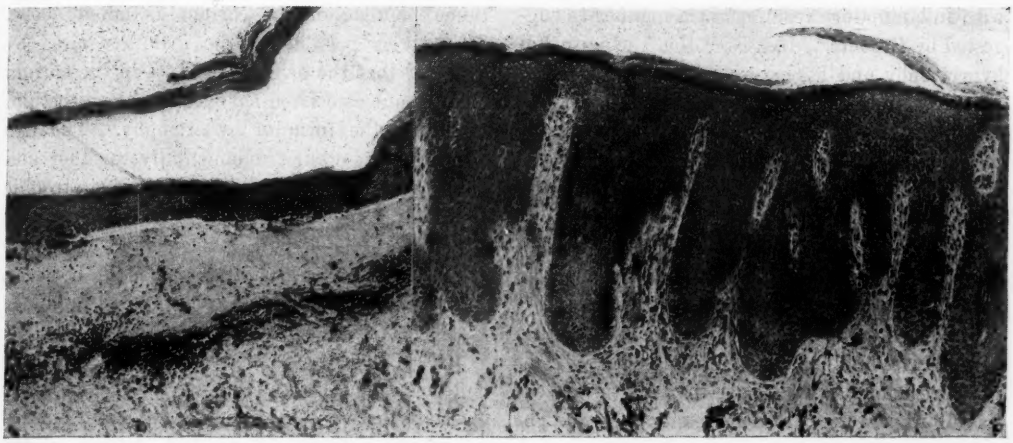

Fig. 5. Kraurosis vulvae. Same specimen as the previous figures.

Fig. 6. Leucoplakia of vulva. Clinically this lesion appeared grey in color.

appears thickened. Fissures and ulcerations also occur. Microscopically there is some hyperkeratosis, acanthosis, thickened stratum granulosum, normal basal layer, and a chronic inflammatory process just beneath the epidermis. The elastic tissue may be disrupted and edema may be present. An essential feature of this change is that the individual cells and their general arrangement in layers are relatively normal. The color of these lesions has been attributed to the hyperkeratosis by some and by others to the loss of pigment in the basal layer.

The microscopic characteristics are similar to those described by Taussig[3] in the hypertrophic stage of leucoplakic vulvitis and by Adair and Davis[4] in the hypertrophic stage of chronic atrophic dermatitis. In figure 6 the rete pegs are elongated and the prickle cell layer is increased in thickness. There is an hyperkeratosis. Inflammatory cells are located in the corium, many of which in the deeper structures are perivascular. Some regions in this specimen contain edema and in places disruption of the connective tissue stroma is noted. In the connective tissue papillae there is a diminution of elastic fibres.

Fig. 7. Leucoplakia of vulva at site of a fissure. Clinically this appeared white.

Many instances of such hypertrophy of the epidermis of the vulvar skin are noted. In one of the specimens studied here (fig. 7) marked hypertrophy is noted at the site of a fissure about which there is a marked inflammatory reaction. Elsewhere in this tissue the skin is normal. The individual epithelial cells all appear normal and bear a relatively normal relationship to one another. It is believed that this local reaction on the part of the epithelium is in response to an inflammatory lesion of the vulva which existed previously. All the criteria are present for the diagnosis of leucoplakia except the hyperkeratosis which from a study of the many specimens is shown to vary markedly. Taussig[6] stated that there may be relatively little hyperkeratosis early in this disease but that in the later stages it is abundant.

In another specimen obtained from a patient with an acute cellulitis of the vulva there are leucoplakic changes that involve a larger portion of the epidermis. There is little hyperkeratosis. Following regression of the acute inflammation the skin returned to normal. Such specimens indicate that leucoplakia may develop in association

with inflammatory reactions in a manner as suggested by Broders.[7] He stated that the epithelial hypertrophy and hyperkeratosis were only a defense reaction on the part of the skin. These specimens also bring out the fact that leucoplakia may develop and regress in many instances without associated atrophic lesions. Additional conclusive evidence that leucoplakic changes may be unaccompanied by atrophic lesions is obtained from those instances in which leucoplakia and carcinoma are found in the same specimen.

In one specimen that demonstrates a typical atrophic lesion there are a few isolated regions of hypertrophy which have the appearance of having undergone partial regression (fig. 8). The rete pegs are irregular, partially fragmented, short, and thin. The epidermis is thickened, there is marked hyperkeratosis, and the keratohyalin granules are increased. At the left the atrophic changes are more marked. It cannot be definitely stated, of course, that this is an instance of leucoplakia superimposed on kraurosis but the possibility remains.

It has been repeatedly noted by Ketron and Ellis[1] and others that leucoplakic changes are frequently superimposed on various lesions of the skin. Although Taussig[6] describes an epithelial hypertrophy as the first stage of leucoplakic vulvitis, he states that the first changes in leucoplakic vulvitis are to be found in the connective tissue papillae of the corium as noted above. Thus, it is possible in the instances cited by Taussig[6] that the original changes in the corium bring about associated changes in the epithelium that take the form of hypertrophy. The two changes then occur fundamentally together and develop simultaneously. The regressive atrophic changes take place slowly, as a rule, so that in the early phase the hypertrophic changes are more outstanding. In the later phases, however, atrophy is the predominate finding, as might be expected, and as figure 5 demonstrates.

A hypertrophic change that is occasionally noted is exemplified at the lateral edges of figure 9. Here there is some hyperkeratosis and marked acanthosis. There are marked changes in the prickle cell layer. The cells evidence numerous mitotic divisions. The nuclei, which stain deeply, vary considerably in size. There is no evidence of any prickle processes. When compared to the leucoplakic changes noted above, it is observed that there is a complete disassociation of cell layers in the epidermis and the cells do not have the normal relationship one to another. The arrangement of the basal layer is in places normal and in other places entirely absent. A small carcinoma is located in the central portion at the site of a fissure.

Identical findings to these were observed in a specimen removed for recurrent leucoplakia with

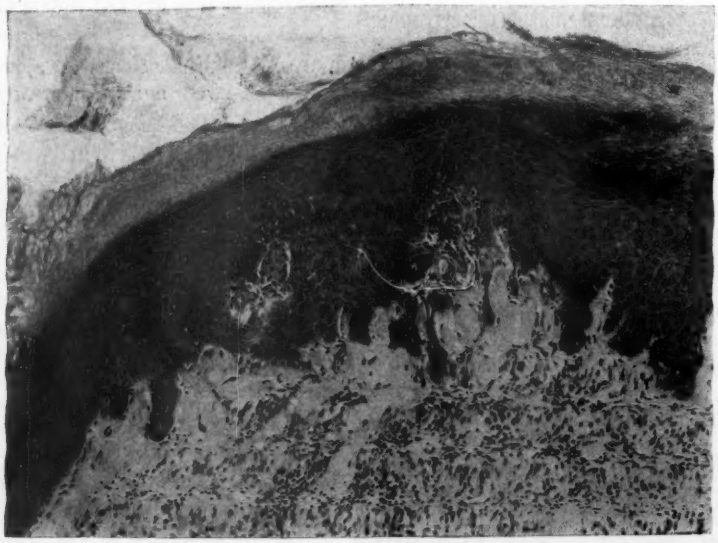

Fig. 8. Kraurosis at the left. Regressing leucoplakic changes and collagenous material deposits in the remainder of the picture.

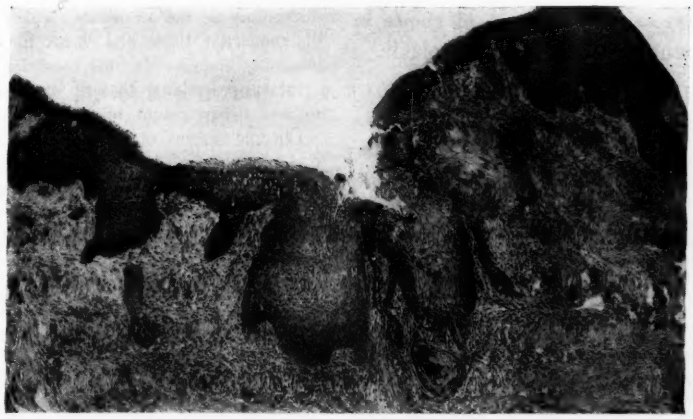

Fig. 9. Thickening of entire epidermis with marked changes in the epithelial cells at either end of the photomicrograph. Small carcinoma in the center at the site of a fissure.

fissuring in a patient who had previously had a vulvectomy and gland resection for carcinoma of the vulva. No definite carcinoma was found in this tissue. That these marked alterations in the epithelium are early malignant changes cannot be stated with certainty. The reaction, however, is considerably different from that noted in simple leucoplakia. That carcinoma of the vulva is associated with kraurosis and leucoplakia must be accepted. Taussig[6] reported sixty per cent. in association with the hypertrophic stage and forty per cent. with the atrophic stage of leucoplakic vulvitis.

These facts immediately suggest that adequate treatment must be instituted for those lesions of the vulva described in this paper as leucoplakia and kraurosis. Many types of treatment have been suggested. Learmonth, Montgomery and Counsellor[8] and Montgomery, Counsellor and Craig[2] have sectioned the pudendal, perineal, and other nerves of the vulva and reported good results. Swift[5] reported marked improvement with hydrochloric acid and vitamine A therapy. Ovarian hormones have been said to bring about improvement temporarily, at least. Ointments and various local medicaments have been suggested. Radium and x-ray are not considered efficacious. Vulvectomy, partial or complete, is the most widely used.

In evaluation of the choice of procedure, one fact should remain in mind. This is that leucoplakic vulvitis is associated with carcinoma in fifty per cent. of instances (Taussig[6]). The procedure that most adequately and permanently cares for this situation is a complete vulvectomy. All these lesions observed at our institution are treated by partial or complete vulvectomy. The number of patients reported here represent all patients who were observed and diagnosed as such and who consented to operation. While it is stated that endocrine therapy, nerve resection, and other local treatments may bring about improvement, it is believed that such improvement is only temporary and that it is fundamentally a symptomatic one on the part of the patient. It seems unwise at the present time to employ such therapy in the lesions that in fifty per cent. of instances are associated with carcinoma. Those lesions about the anus and perineum may require planning of the line of incision. Prognosis following complete vulvectomy is excellent as far as the development of carcinoma at the site of leucoplakic vulvitis is concerned.

CONCLUSIONS

1. The terms kraurosis vulvae and leucoplakia as used here are defined.

2. Kraurosis may occur as a clinical entity or it may be associated with leucoplakic change.

3. Leucoplakia may occur independently of kraurosis in such lesions as inflammations of the vulva and carcinoma.

4. Leucoplakia is frequently associated simultaneously with kraurosis. Since Taussig[6] and others believe the initial changes in kraurosis occur in the corium, leucoplakia is probably superimposed on the kraurosis.

5. Vulvectomy is the procedure of choice in treatment of kraurosis vulvae and leucoplakia.

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DISCUSSION

Dr. Howard S. Holloway, Evanston: It occurred to me that perhaps some of the members of this group may not be quite so familiar with some of these conditions and might have some trouble in diagnosing them. There are certain conditions which are every bit as frequent as leukoplakia and kraurosis and which resemble these two conditions. One of these is the so-called leukoderma, particularly associated with atrophic changes occurring at the menopause; this may present and does present a whitish discoloration or lack of pigment in the skin which may be mistaken for leukoplakia of the vulva, the characertistics of which are local smoothness, no thickening of the skin and it is usually found simply as an accidental finding in women who have undergone atrophic changes during the menopause.

There is a condition called neuroderma which causes marked pruritus vulvae. This, due to the irritation and constant scratching and itching, can produce thickening of the skin layers, causing some hyperkeratosis which will cause the tissues to look somewhat pale in color and grayish. It can be differentiated from kraurosis only by the fact that one does not find as much thickening of the skin and retraction of the labia and sometimes of the introitus. Microscopically, outside of the possibility of some hyperkeratosis, the epithelium and elastic fibers are unchanged.

There is another condition, called lichen planus which may be present at the menopausal age, showing particularly an atrophy of the vulva in which there are papules and small areas of whitish roughening which may coalesce and together cover the exact location of the leukoplakic vulvitis with atrophic changes and retraction of the labia minora and narrowing of the introitus; but it does not present the same amount of thickening as the kraurosis, which is indicative that the connective tissue and elastic fibers have not undergone any change. In this condition there is a hyperkeratosis resembling that of kraurosis. One is liable to find lichen planus other places on the body.

Chronic eczema of the vulva, particularly in women undergoing the menopausal changes with normal atrophy of the vulva and narrowing of the introitus, may simulate this condition. However, there is not quite as much retraction of the labia and the lesions are apt to be in the folds of the labia and crevices between the labia, thighs and gluteal folds.

There is a condition called lepidosis which is similar to kraurosis. The difference between that and kraurosis is that the labia minora are pendulant and swollen and show no retraction.

In the hypertrophic stage of the chronic atrophic dermatitis of Adair and Davis with acute symptoms of swelling, redness and ulceration, one finds a condition which may simulate that of our monilia, trichomonas and certain streptococcic infections. In the primary stage marked swelling and edema take place as well as itching, burning, dyspareunia, irritation, ulceration and fissure formation. Usually there is marked discharge which calls attention to the fact that there is a vaginitis. But there may not be any discharge at all so one must examine the vaginal tract carefully for the possibility of bacterial, monilia and trichomonas infections.

In closing I want to commend Dr. Brewer on his very excellent and beautiful slides.

Dr. John I. Brewer, Chicago (in closing): I just want to add that treatment of carcinoma of the vulva is complete vulvectomy and bilateral resection of the inguinal and femoral glands.

THE DIAGNOSIS OF BACKACHE

SAMUEL J. LANG, M. D.
EVANSTON, ILLINOIS

It is difficult to understand the etiological factors relating to all cases of backache. At times the cause is obvious but more often it is obscure. Although in some it may be impossible to make an exact diagnosis we believe that in most cases it is possible to place a given case in one of several great groups. It is my purpose to suggest a procedure for the classification of backache from an etiological standpoint. Inasmuch as it would be impossible to discuss each of these groups in detail I shall only mention those with which we are most familiar and devote the remainder of the paper to backache due to more obscure causes.

Associate in Medicine, Northwestern University Medical School.

Read before Section on Medicine, Illinois State Medical Society, Rockford, May 2, 1939.

All are aware of the fact that certain systemic diseases may be associated with backache. Prominent among these are disturbances of the central nervous system and of the urinary tract. Attention to the patient's story combined with a routine physical examination will usually indicate whether further diagnostic efforts in this direction are necessary. In a consideration of the genital tract, tumors and inflammatory lesions of the pelvis may be exciting causes but simple displacements of the uterus are no longer considered as important etiological factors in the production of backache. Investigation of the pelvis should include examination of the terminal colon, the prostate gland and the ligaments and muscles which form the floor of the pelvis. Consideration should also be given to the primary or metastatic malignancies and to such specific infectious diseases as syphilis, tuberculosis and smallpox. The cold abscess of Pott's disease and the prodromal backache of smallpox are excellent examples of conditions easily overlooked in evaluating the causes for back pain.

The systemic diseases are, however, not the most common cause of low-back pain. A large percentage of persons complaining of backache have no demonstrable systemic disease and are in most instances completely well except for this one complaint. Some of these individuals have constant backache while others have only intermittent pains. Many fall into the hands of the cultists presumably because of dissatisfaction with the methods employed by medical practitioners.

The paucity of knowledge concerning the mechanics involved in the maintenance of *equilibrium is in part responsible for our fail*ure to understand these cases. From the knowledge we do have there can be no doubt but that soft tissue changes in the form of sprains, strains and lacerations with resulting muscle spasm or ischemia are the principal underlying causes in most instances. Important conditions which lead to these changes are trauma, congenital malformations and the arthritides. Most of the cases can be satisfactorily included within one or more of these three groups.

Trauma may be divided into the acute and chronic types. Under the former would be included fractures, dislocations, sprains and the common lesions encountered by industrial surgeons. Compression injuries resulting in collapse of intervertebral discs with subsequent root pains also fall within this group. Chronic trauma is without question a potent cause for backache. Mechanical changes induced by obesity, pregnancy and multiparity are responsible for most of the cases seen in women. These changes are principally at the expense of the muscles and ligaments of the spine and pelvis and as such are not demonstrable by x-ray, but can be detected by a careful physical examination of the back which should include inspection and palpation in the upright position. Occupational strains such as may be seen in mail carriers, miners and laborers are other examples of the effect of chronic trauma.

Congenital deformities of the lumbar spine are quite common. Most of these are asymptomatic and in many cases cannot in themselves be accepted as a cause for backache. It is our belief, however, that spines showing congenital malformations are more susceptible to soft tissue damage and are injured by lesser degrees of strain than are normal vertebral columns.

Arthritis of the spine may be subdivided into atrophic or rheumatoid and hypertrophic or osteo-arthritis. Atrophic arthritis, here as elsewhere, primarily affects the periarticular soft tissues and in the spine is confined to the smaller posterior and sacro-iliac joints. We are of the opinion that isolated atrophic arthritis of the spine and particularly of the sacro-iliac joints is relatively uncommon and that such diagnoses are often made for lack of a better explanation for the complaint. The condition known as spondylitis ankylopoietica or Marie-Strüempell disease in which the ligaments of the spine become calcified as part of the ankylosing process is a manifestation of atrophic arthritis and should therefore be included within this group.

Hypertrophic arthritis of the small joints is difficult to demonstrate while that of the sacro-iliac joints in the aged is relatively common although the latter is probably not a frequent cause of backache. Inasmuch as no joints are involved, osteophytic lipping of the vertebrae cannot correctly be termed arthritis. The spicules seen on vertebrae of persons past middle age are best regarded as degenerative or senescent changes, having no relationship to infection and being only remotely associated with backache.

COMMENT

According to the plan submitted, most backache not due to one of the systemic diseases, is either on a traumatic or an arthritic basis. The congenital malformations as such are rarely responsible for pain and are in reality dependent upon some form of trauma to initiate disturbances which lead to backache. Such disturbances may be minimal degrees of strain which would hardly be expected to cripple the normal spine, for example: a sixteen-year-old girl complained of backache only when her dancing partner held her firmly enough to force her into a lordotic position. Examination of her spine revealed a severe spondylolisthesis of which she had never previously been aware. In the absence of a history of acute trauma this child should have been and was suspected of having a congenital deformity as the basis for her complaint.

As mentioned earlier, pregnancy, obesity and particularly the combination of obesity and multiparity are responsible for the majority of cases of low-back pain in women. Examination of the hypertrophied and often tender erector spinae muscles in such individuals offers convincing evidence that they represent the source of the pain and that the etiological factor is soft tissue rather than bony strain. Occasionally x-ray films in such individuals will show a hitherto unsuspected destruction of the intervertebral disc. Some will recall accidents which may have been responsible for the injury but in many no such history is obtainable.

Except for Marie-Strümpell disease, isolated atrophic or infectious arthritis of the spine is relatively rare. Backache in the presence of generalized atrophic arthritis should obviously be regarded as being due to the same disease process as elsewhere in the body, unless evidence to the contrary is available.

TREATMENT

The best treatment for low-back pain is a good diagnosis. If one is able to classify any given case within one or more of the groups mentioned, the plan of procedure becomes simplified.

Arthritis of the spine is treated as elsewhere in the body. Marie-Strümpell disease is particularly resistant to treatment but is fortunately relatively uncommon.

Osteophytic lipping of the vertebrae requires no treatment while hypertrophic arthritis of the spine being senescent in character must be managed symptomatically.

The cases associated with congenital deformities frequently respond to rigid or semi-rigid supports in the form of casts, corsets or the various types of spine braces.

The treatment of acute injuries to the spine is not within the scope of this paper.

Weight reduction, the correction of pronated feet and the elimination of possible occupational causes will relieve most of the backaches due to chronic trauma which are so common to middle-aged women.

Physiotherapeutic methods are useful in practically all types of backache, and manipulative measures will at times give startling results. When conservative measures fail to produce the desired results, surgical intervention is necessary but fusion operations are required only in a relatively small percentage of cases.

636 Church Street.

DISCUSSION

Dr. James Stack, Chicago: I wish to thank Dr. Lang for his complete discussion of all the possibilities, and it is my purpose to enlarge upon a few of the causes of backache with which you and I are familiar.

We will take the example of the thirty-five or forty year old man who goes out on the sidewalk after the first snow of the winter and with a shovel bends over, takes a shovel full of snow, tries to get up and cannot, falls down, is carried into the house and cannot move, and possibly needs morphine for his pain. What happens to him?

The answer is not clear. I have never heard a good explanation, and the reason is that these patients never die of this syndrome. They never need to be operated upon for this acute condition, so we are still at a loss to say whether it is the fascial strain or muscle strain, whether acute traumatic synovitis with possible tear in the joint capsule, or whether a partial or complete dislocation of the lumbosacral facet has occurred. It is clear to me that such a thing is possible, although not common.

Manipulation cannot possibly cure any torn structures but can relieve a true dislocation. Certainly we must consider that as one of the lesser possibilities in this instance.

Another thing which is brought to mind by Dr. Lang's paper is that most of these things that occur in the low back are not sacro-iliac. You hear so much about the sacro-iliac joint and hear people say their sacro-iliac joint slipped. In nine cases out of ten it is not the sacro-iliac. That is a strong, stable, architecturally good joint. It is the lumbosacral, the two facets as big as your thumb nail, architecturally poor,

bearing all the weight of the body from the waist up, at a bad angle from the mechanical standpoint. In most of the cases it is lumbosacral, and the plan of treatment at first is rest, of course.

All these people cannot go to bed and rest with a pillow under the spine and heat to the spine. They have to go to work, and the best way is to see that their spine is properly supported. The easiest and best way to suport the lumbar spine and lumbosacral joint for a few days is by means of adhesive strapping, properly applied. It is a difficult job at best to put something on the outside of the back to make it do a job of something on the inside, but adhesive is the thing that for a short period will do the best work that can be done.

For true lumbosacral pain the proper method of strapping the back with adhesive is to attempt to join the pelvis to the lower part of the thorax to get the two fixed points, so that the part of the spine in between cannot be moved or, at least, cannot be moved very much. Flexion from then on will not take place in the movable lumbar spine but will take place between the pelvis and hip joint. So strapping the back around the upper part of the buttocks or around the waist is not a good method in such cases. The strap should be put on both horizontally and diagonally so that the lower chest and pelvis are united by this mass of adhesive, and it should also be put on beginning from right to left the first time, then left to right, etc., so that too much skin tension is not brought on one side of the abdominal wall. We have seen cases, and undoubtedly you have, in which actual skin blisters, beginning skin necroses, have occurred over the anterior-superior spine when strapping was put on and drawn tightly off from one side to the other.

That, in our opinion, is one of the most common forms of backache, and one that can be treated very successfully by very simple methods.

In connection with the trauma that Dr. Lang spoke of in reference to pregnant or multiparous women, and the backache they have after childbirth, we have an expression for this in our group. We speak of it as the young mother's back. We will take, for example, a slender girl who has never before been pregnant. The muscles and ligaments are subjected to this additional weight. She gives birth to the baby and the abdominal muscles are not given time to return to normal function. She begins to lift the baby in the wrong way without bending the knees and taking the baby at the long arm of the lever, putting all the strain possible on this poor weak lumbosacral joint. We find that frequently to be the case and with a little cooperation and rest they will get well.

Congenital deformities, spoken of by Dr. Lang, are at the bottom of many cases of chronic or acute trauma. Spondolisthesis is one of the most common forms. Any time a congenital deformity of the back, excepting possibly spina bifida occulta, is seen, you can be quite certain that back is prone to injury. It will not stand quite such effort or quite as much work as the back that is perfectly normal. Maybe they will go along for ten or twenty years but somehow or other they will have trouble which the normal person will not have.

Dr. Lang omitted one form of arthritis which we feel is important, that is the one caused by gout. In our experience we see little of the classic picture of the inflamed big toe. We think we see many forms of backache in individuals with the blood serum uric acid of 4.5 or 5 who will get well when given some rest and low protein diet. Possibly one may add to that some atophen or some of the other things known to be good for gout.

To me the encouraging thing about the whole back problem is that, given time and attention and given a good diagnosis, most of them will get well with patience and the usual forms of palliative treatment. In our experience less than one-half of one per cent. of the people who come in with backache are subjected to surgery of the spine.

SURGICAL TECHNIQUE FOR REPAIR OF EXTENSIVE VESICO-VAGINAL FISTULA, FOLLOWING TOTAL HYSTERECTOMY

EMIL JONAS, M.D., AND ANDREW DICK, M.D.
CHICAGO

Repair of vesico-vaginal fistula following total hysterectomy is a difficult surgical problem and the technique is entirely different from that used when the uterus is still present. The changed anatomy and physiology of the bladder and surrounding tissue following total hysterectomy should be considered and the operation should be chosen accordingly, to fit the type of fistula present. When the uterus is still in place we have the protective support of the uterus and vesico-uterine ligaments against the intra-abdominal pressure which naturally tends to cause downward displacement of the bladder especially in cases of relaxed perineum. After total hysterectomy this protective support is gone and displacement of the bladder occurs sooner or later. Unless the changed position of the bladder is corrected to normal or nearly normal, repair of the fistula will be unsuccessful regardless of the surgical technique or type of suture material used in the repair. This belief of ours formed, supported and borne out by the following case.

Report of a case. Mrs. M., a white female, thirty-nine years of age was admitted to St. Joseph's Hospital with a history of a vesico-vaginal fistula of twelve years' standing following total hysterectomy, which had been performed for some sort of uterine tumor. Patient noticed immediately following the operation that urine was being passed through the vagina and she had

no control of it. According to her own statement forty-seven unsuccessful attempts had been made by different surgeons at different hospitals to correct this condition.

On admission a physical examination was essentially negative except for an extensive vesico-vaginal fistula. Vaginal examination revealed a fistula opening the size of a nickel at the border of the anterior-posterior vaginal wall at the former place of the cervix. Urine was flowing constantly through this opening. The mouth of the fistula admitted a bent finger into the bladder and this examination revealed not only a fistulous opening fixed to the surrounding tissue by massive scar tissue but a diverticulum like part of the bladder which led down between the posterior vaginal wall and rectum. Fig. 2. We know now that we were not dealing merely with a large vesico-vaginal fistula but also with an extensive pocket formation of the bladder extending from the rectum almost to the skin of the perineum. This easily could have been mistaken for a rectocele.

Keeping this in mind we planned the operation so as to prevent mistakes and assure success. This procedure could be used in any other fistula of this type after proper preoperative treatment. The operation was performed under general anesthesia.

OPERATION: The anterior vaginal wall was split in the midline from the anterior edge of the fistula towards the urethral orifice and the posterior vaginal wall from the posterior edge of the fistula down to the perineum. The incision was now carried all around the fistula itself and then the vaginal wall was dissected laterally at both sides. The opening in the bladder and the pocket of the bladder adhering to the

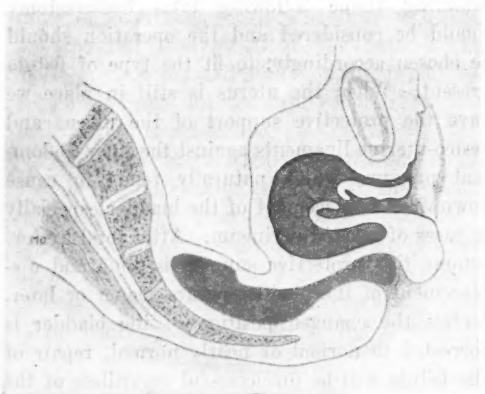

Fig. 1. Showing vesico-vaginal fistula after total hysterectomy.

anterior wall of the rectum were exposed by this procedure. This pocket formation in the bladder could have easily been mistaken for a rectocele. The pocket was freed on all sides and pushed up as high as possible. The mobilization of the neck of the fistula followed by the dissection of massive scar tissue surrounding it was a rather difficult part of the operation due to so many previous operations. However, injury near the edge of the fistula is unimportant because there is a large part of the bladder free with which we could easily make an inversion and closure. After complete mobilization of the fistula, it was inverted into the bladder, using two layers of interrupted catgut

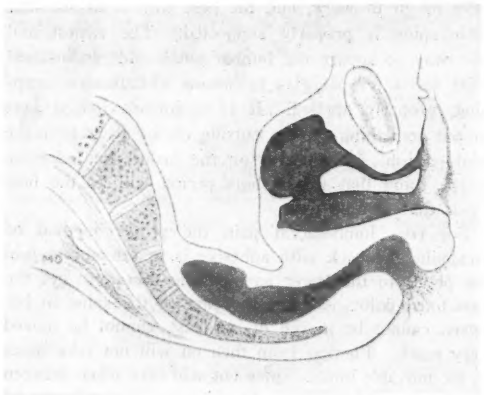

Fig. 2. Showing changing position of bladder, with posterior wall of the bladder slipping between posterior vaginal wall and anterior wall of the rectum, due to abdominal pressure.

sutures and the opening then closed. The most important step now is to insure that the pocket of the bladder does not again slip downward between the posterior vaginal wall and the rectum, causing a potential sac, retention of urine and tension on sutures. Therefore, we sutured the posterior vaginal wall to the anterior rectal fascia, and the anterior vaginal wall to the cut edges of the posterior vaginal wall which had partially surrounded the fistula. Besides this, we performed a regular cystocele operation by inverting the bladder with interrupted sutures which were placed in a transverse direction in the bladder fascia for the purpose of correcting the prolapse. The operation was finished by uniting the cut edges of the midline incision of the anterior and posteriar vaginal wall with interrupted catgut sutures. The shortness of the vaginal wall was quite noticeable when the operation was finished. A retention catheter was used for twenty-four hours. After proper postoperative management, the fistula healed completely, without any complications, within fourteen days.

COMMENT

It is well known that the bladder in females has a tendency to displace itself downward, due to intra-abdominal pressure, even when the uterus is present, when there is a relaxed perineum thus forming a so-called cystocele. After the uterus has been removed, the downward displacement of the bladder into the vagina begins and grows more marked as time goes on. The degree of the prolapse depends upon the strength of the

perineal floor, whether or not it is able to withstand the intra-abdominal pressure. In case of a vesico-vaginal fistula following total hysterectomy, the same physical forces are present, except that around the edges of the fistula massive scar tissue develops and acts to prevent the lower part of the bladder prolapsing into the vagina itself. The anterior wall of the bladder is partly fixed to the anterior and posterior vaginal wall around the fistula. The intra-abdominal pressure is constantly falling on the bladder, causing the movable upper posterior vaginal wall to bury itself between the posterior vaginal wall and the rectum thus bringing about downward displacement of a large part of the posterior wall of the bladder and possibly a smaller part of the anterior wall of the bladder forming a diverticulum-like pocket. If this condition is already present, one can see that the entire amount of urine will accumulate in this diverticulum-like part of the bladder and, when this is filled to the level of the fistula opening, the urine begins to flow out through the vagina. By the time the pocket grows larger and even if the mobilization, inversion, and closure of the fistula is performed perfectly, the operation will not be successful, because the pocket will still be present, producing tension and downward pulling of the posterior lip of the fistula. Sooner or later the repaired edges of the fistula will tear apart, and the fistula will recur. We believe this was the reason for the failure of the many previous operations this patient had undergone and our success was due to the correction of the downward displacement of the bladder.

The only purpose of this article is the above discussion of changes which take place in the bladder and surrounding tissue in case of a vesico-vaginal fistula following hysterectomy. The type of operation should be chosen accordingly. The pathology should be understood, considered and corrected as a whole in every individual case and then the result will be satisfactory.

We wish to stress, very briefly, certain principles to which we adhered and which were instrumental in our success:

1. The patient should be prepared before surgery with ketogenic diet and medication such as sodium acids phosphate and ammonium chloride to keep the urine acid. This prevents phosphate deposits in the vagina and around the fistula. Alkaline urine always delays healing. The patient must be kept comfortable by keeping the operative field clean—warm water douches, followed by dermatol powder to keep the perineum dry are very useful.

2. We do not believe the type of suturing material is particularly important so long as it is non-irritating. Twenty-day catgut will serve the purpose.

3. The bladder should be kept empty during the operation and postoperative course. Whether or not a retention catheter is used is a matter of individual choice. If one is used, care should be taken that it does not touch the suture line and cause damage there. We used a simple rubber catheter in this case for twenty-four hours only and, after that, asked the patient for frequent urination.

4. Free mobilization of the bladder all around the neck of the fistula and suturing with two layers of sutures is very important.

5. Correct the secondary pathological findings regarding the position of the bladder and condition of surrounding tissue.

SUMMARY

A case of vesico-vaginal fistula following hysterectomy which has been corrected after numerous failures is presented. The changes in the position of the bladder, the pathology of the surrounding tissues and the action of the intra-abdominal pressure in cases such as this are the cause of failure in surgery. The importance of the correction of subsequent changes in addition to proper closure of the fistula itself is emphasized.

30 N. Michigan Ave.

THE UPPER RESPIRATORY REVENGE OF THE ALLERGIC CHILD

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THE ALLERGIC CHILD IS BORN THAT WAY

Practically every allergic child has a family history. We have satisfied ourselves concerning this point so completely that we recheck the di-

From the Children's Allergy Section aided by the Jessie Werthamer Service Club of Mandel Clinic and the Sarah Morris Hospital for Children of Michael Reese Hospital.

Read by invitation before the Section on Eye, Ear, Nose and Throat at the Annual Meeting of the Illinois State Medical Society, Rockford, Illinois, May 3rd, 1939.

Deceased, November 29, 1939.

rect and differential diagnosis if we are told that that there are no other cases of major or minor allergy in the immediate or antecedent family. The specific disorder is not inherited but the tendency to develop allergy is manifest. In other words, an asthmatic mother may have an eczematous infant, or a father with urticaria may have a child with hay fever. Nevertheless, there is a little tendency for hay fever to beget hay fever and asthma to beget asthma. Statistics which would entice geneticists but might prove a tiresome tangent in this exposition, indicate clearly that the more numerous the allergic antecedents, the stronger the inheritance so to speak, the more numerous the allergic offspring and the earlier in life the condition will assert itself. The figures and percentages come off the accounting pencil with mathematical precision.

Herewith is presented an average picture of family allergy (table 1). In this group there is the obvious eczema, hay fever, asthma and hives and the less appreciated so-called sinus disturbance, migraine, pylorospasm, thymus and gastro-intestinal symptoms.

The subject of thymus deserves a separate sentence. The infant with a persistent, widened mediastinal shadow, particularly if it appears to compress the trachea or manifest its thickening on the transverse view, is guilty of harboring one of the stigmata of the allergic constitution. This finding impressed itself emphatically in a review of 186 diathetic babies formerly labelled "the infantile diatheses" and keeps recurring as it is examined in routine, upright fluoroscopy. To confirm the validity of the "chest print" is the disproportionate frequency of the history of a "thymus" in the allergic patient who first appears in later childhood and the teen age or in his siblings. The history can only be elicited when the allergic patient is young enough to be accompanied by the parent. The history routine does not include the question, but the information is so frequently volunteered that it makes our personal findings at the other end of the story more significant, particularly when the diagnosis in the older group was made by others with no idea or prejudice with regard to its connotation.

Along with this "chest print" are other signs and symptoms of the gastro-intestinal tract, including pylorospasm—the first sign of allergy-pharyngeal spasm with belching and gulping while nursing, anal sphincter spasm, bowel spasm (colic?), respiratory peculiarities such as inspiratory crowing on nursing, fine wheezing after cod liver oil, a peculiar rapid, shallow respiratory movement of the chest which we have termed "fluttering," skin findings such as eczema, "cradle cap," sudden pallor and sometimes cyanosis, bone signs such as craniotabes at four months, cranial rickets and often rapid gain in weight. Sometimes there are generalized convulsions. This is the type of child who is either noisy, fretful and given to delirium with fever when older, or is very placid. There are extremes of behavior.

ALLERGY DISTURBS HIS GROWTH AND DEVELOPMENT

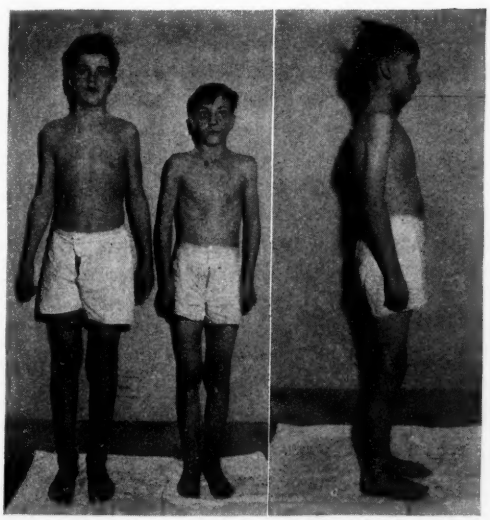
A chronic constitutional disorder necessarily disturbs the processes of growth and development in the growing organism. Blocking of the nasal passages causes mouth breathing with its peculiar appearance. Lack of ventilation of the sinuses prevents their development and changes the facial contour accordingly. Asthma interferes with oxidation and causes structural changes in the chest aside from the general effect on growth.

These changes are best appreciated in illustrations. The first is an asthmatic boy of fourteen years standing beside a boy of fourteen years, who is himself about one year below the average for height and weight (figs. 1 and 2). There is a marked contrast. The patient has had "bronchitis" since early childhood, but a definite diagnosis of asthma was not made until he was six years of age. Note the marked pigeon breast. His facial expression is anxious and pinched. On profile his knees are bent forward, and he assumes the fatigue posture. The second picture is that of a girl with a similar history (figs. 3 and 4). She displays prominently the pinched features, nasal prominence, paranasal depressions and anxious expression. Nose and throat specialists will especially appreciate the incomplete development of the maxillary, sphenoid and ethmoid sinuses which collaborate to carve out the results. Notice the anxious expression about the eyes, and the fatigue posture on profile, with sunken chest, prominent abdomen, and forward bending of the partly flexed knees. This child of fifteen years was led in by

her mother with the story that she had been out of school most of her life, that she could not associate with girls of her age because of her disability and that she had had some testing and treatment without real interest or energy. Suffice it to say that with the establishment of the etiologic diagnosis and indicated treatment and environmental control, this young woman has lost her infantile outlook and retarded development. She goes to school and comes to the office—far from her home—by herself or with her school friends. She comes in bounding, with erect posture for which no direct treatment was instituted, a happy, well adjusted individual.

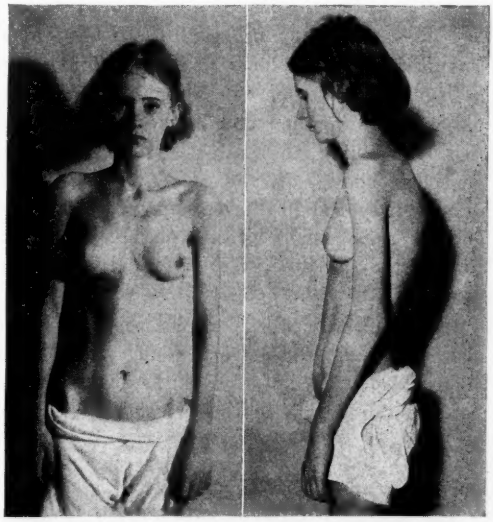
IT AFFECTS HIS BEHAVIOR

No child can act well when he does not feel well. The wise mother says to her irritable child, "Mary, do you feel well? Let me feel your head." The allergic child is chronically disturbed. His nose bothers him; his breathing causes a rumpus, or his skin itches. The allergic child cannot be at ease. This may cause an emotional disturbance or an emotional cause may aggravate his symptoms. That is a far cry from



Figs. 1 and 2. Upper respiratory revenge of allergic child.

the insistence of the analyst that the emotional disturbance causes the allergic manifestation. In the case of the boy in the illustration, he had been sent by the Social Service "Case" Worker to the psychoanalyst on the basis of two points in his history. First, he had week-end asthma which was immediately interpreted as an attempt to avoid helping his mother with the six younger children although there were two older. Second, he preferred to sit on the side lines



Figs. 3 and 4. Upper respiratory revenge of allergic child.

watching the girls chase the boys or vice versa, because he knew he would wheeze if he joined in and would even wheeze when he tried to laugh heartily at their antics. The latter was immediately pounced upon as sexual repression. There was a definite allergic explanation for both phenomena but, in the meantime, for a period of months, he had been sent from pillar to post resulting in a ponderous quantity of irrelevant behavior minutiae. Eventually, I presume, they intended to talk his life-long asthma out of him instead of giving a few drops of adrenalin or an injection of aminophylin which gave him complete relief for a month when he was made available to use for management. I should take a sadistic delight in subjecting an asthmatic analyst to another analyst for "talking it out of him" and withholding the breath-restoring relief of known effective treatment but, fortunately or not, there is definite evidence that more analysts require analysis than allergy. This is questionably flattering in light of the striking statistics that there are extremely few allergics in the state institutions for the mentally disturbed, and that allergy returns frequently

when the patient develops a remission[2]. In other words, when psychiatry enters allergy flies out of the window.

To take a milder case, I offer the mean, irritable and unhappy child of very placid and pleasant parents. The mother admitted her own disappointment in her little girl. There was no apparent explanation for the child's disposition. The father was a ragweed hay fever patient, who vomited and belched in the summer, resembling the father described in the geneology above. At the age of five the child developed typical hay fever and was placed on allergic management. She soon became transformed into as sweet and joyful a personality as one could wish.

In other words, allergy affects behavior. It is operative even in the very young. An early sign of behavior deviation is the fact that allergic children talk in their sleep.

IT PAINTS HIS INFECTIONS WITH ITS OWN PECULIAR HUES

The allergic child is an extremist in behavior. He is also an extremist in his reactions to infections. The eczematous baby is apt to develop severe throat, ear and skin infections, including erysipelas and kidney disturbances overlooked in the edema of the face. When the croupy child with a tendency to asthmatic bronchitis develops pneumonia, he exudes early and frequently develops empyema. Allergic children react in an exaggerated manner to infections. As an illustration, I recall the case of a ten-year old boy with a history of frequent asthma in the fall and repeated febrile colds. He had pylorospasm in infancy and night terrors in later childhood. There is an allergic family history. My first contact with the child came in the form of a telephone call during my office hours when the mother said, "Doctor, I want you to see my boy. He is very low with asthma." This was a startling conversation, as you might imagine, and I arranged to have the boy brought to the hospital. He had asthma desperately in the right chest, but he had pneumonia with complete consolidation on the left and scarlet fever over all. The course of the clinical composition and some of the other allergic incidents and implications could make him the subject of a report by himself. The boy recovered and has been under treatment for hay fever which was the basis of his fall asthma. From a chronic complainer, invalid and school absentee, he has taken his place with the other children to the extent that he has twice required the use of tetanus antitoxin with all the adventuresome details of allergic administration. Other cases could be related to indicate the frequency with which an allergic child is apt to respond to infection with a crazy course.

The allergic child of the family can be seen to react differently when there are siblings as controls. Again I quote our boy of the picture. Three of the children had whooping cough at the same time. The other two had an average course and went about their play. Our hero was violently sick and confined to bed most of the time.

There is a moral which must be sounded in fairness to the new, often maligned until appreciated, then amateurly imitated specialty of allergy. When a child who has been known over a period of years with his infectious foibles and frequently develops allergy, and is thereafter treated particularly on the perennial basis, there is a dramatic reduction of the upper respiratory disturbances in frequency and severity. The subject does not lend itself to statistical demonstration, but there are flattering frequencies of mothers' unsolicited observations that "the child never has a cold since he has been taking the treatment." The treatment in question is not directed against cold or the nasal conditions per se, but usually refers to hay fever or asthma.

HE REBELS. HE TAKES IT OUT ON HIS RESPIRATORY STRUCTURES, HIS DIGESTIVE TRACT, HIS NERVOUS SYSTEM, HIS SKIN, EYES, JOINTS, ETC.

From the respiratory standpoint, the most conspicuous aggression is the allergic salute. The allergic nose itches. For relief, the child either grimaces or rubs. The rubbing may be rotary, which some consider pathognomonic; it may be sort of pinching; or the hand shoots smartly upward, palm against the tip of the nose in the characteristic allergic salute.

The pale, blue gray, waterlogged nasal membranes narrow the inflow of air with sniffling or auxiliary mouth intake. The posterior pharyngeal wall and the fossae after tonsillectomy may be covered with accentuated lymphoid follicles often giving a cobblestone appearance to the

throat. Croup in babyhood becomes asthmatic bronchitis in early childhood until the asthmatic nature of the difficulty is eventually admitted by parent and physician. Coughing in this hypertonic group, whether bronchial or provoked by the easily affected pharyngeal lymphoid tissue, frequently occurs in paroxysms and results in gagging and vomiting. The physician will do well to have a prepared statement when the health authorities relay the accusation of the omniscient neighbor that he is aiding and abetting a case of whooping cough.

In the digestive tract the first sign of allergy is manifest, namely, vomiting. It may be so-called pylorospasm or surgically proved hypertrophic pyloric stenosis. The vomiting infant presages an allergic individual. He will bear observation accordingly. The colicky baby falls in the same category, and we must cast suspicion on the fairly common but unrecognized celiac disease, particularly overlooked in its milder forms. Curiously, this condition is more apt to occur in children with a history of pyloric stenosis. Later other disturbances of the gastrointestinal tract may manifest themselves on the basis of food idiosyncrasy.

The nervous system yields cases of migraine and epilepsy. The skin offers eczema, urticaria, angioneurotic edema, prurigo and dermatitis or flexural eczema. The eyes are frequently the site of lid dermatitis on a contact basis besides episcleritis on an inhalant basis and vernal catarrh which still prove baffling. Joint pains are sometimes due to food sensitization in children. This is demonstrated by the success of dietary management in such cases. The "et cetera" includes other less well known or appreciated conditions, particularly the hemorrhagic manifestations, such as essential hematuria and types of visceral and joint purpuras. I have an eleven-month old baby on the service, who was brought to the hospital for a generalized hemorrhagic condition beginning about the umbilicus, and extending irregularly downward with no signs of scurvy in the bones. He has been asthmatic since the age of four months.

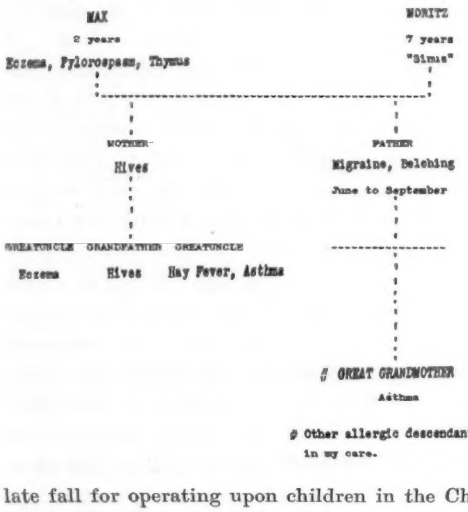
THEN HE ENSNARES THE UNWITTING DOCTOR TO ENTER A CONSPIRACY AGAINST HIS "SINUS DISEASE," HIS "NARROW NASAL PASSAGE," HIS TONSILS, ADENOIDS, POLYPS.

What does this all mean. First, with regard to "sinus disease," there may be acute sinusitis but rarely is there chronic sinusitis. Why should there not be sinus infections in an allergic, edematous condition which causes occlusion of the ostia? It is a truism that infection is certain to occur in any obstructed structure of the body which is normally patent whether it be sinus, bile passage, urinary tract or externally secreting glands. In allergy the sinus involvement is an effect rather than a cause, and sneezing is not characteristic of sinusitis.

The "narrow nasal passage" is due to edema of the overlying membranes rather than a structural bone defect. Operations on turbinates leave the nose worse off than before with crusting and failure of air warming, so that more irritation occurs in the throat, together with bronchitis. Forman[3] conceives the mucous membrane reaction a form of contact sensitivity. From this standpoint Cohen and Rudolph[4] performed direct testing on this group and succeeded in salvaging an appreciable percentage of cases from the waste basket of diagnosis. They have tabulated succinctly the distinguishing characteristics of allergy and infection of the upper respiratory tract pertinent to this discussion, and indicate the occurrence of mixed types (table 2).

The attitude toward the tonsils and adenoids should be determined by the usual indications for removal. In other words, the results of careful studies indicate that tonsillectomy and adenoidectomy per se have no therapeutic benefit in asthma[5]. If there is a reason for surgical removal such as ragged, cryptic, frequently infected tonsils, repeated ear infections or peritonsillar abscess there should be no hesitation. To remove tonsils and adenoids in the attempt or hope to alleviate asthma, unless the usual indications are present, is definitely a surgical mistake. There is no excuse for tonsillectomy on the grounds that fewer "colds" will result and therefore fewer attacks of asthma. The "colds" continue to recur, and pulmonary involvement is not relieved. Parenthetically, when properly advised tonsillectomy is in order, it is preferable to avoid pollen seasons, because hay fever may be precipitated where none existed before and chronic cough may result. This idea applies equally well to any operative procedure, particularly when it involves an inhalant anesthesia. I prefer the very early spring or

TABLE I



late fall for operating upon children in the Chicago area.

Polyps are rarely a problem before the age of puberty. They do cause obstructive symptoms, but they do recur in allergic children. The situation may be summed up as follows. Surgery of the upper respiratory tract whether directed against sinus infections, nasal passages, tonsils, adenoids, polyps should be deferred until there has been a complete allergic study to discover the etiology of the constitutional peculiarity which permits the development of the pathology which surgery hopes to correct, and until sufficient treatment has been instituted to reduce the probabilities of recurrences to a minimum. From a positive standpoint the child who receives the benefit of this type of management will be improved not only in his local disease, but in his physical, as well as mental, outlook.

HIS COMPLAINT IS ALLERGY; HIS REVENGE IS SURGERY

The allergic child has a complaint. There is something peculiar to him that makes him hypersensitive to factors in his environment. It manifests itself in many ways. Among the most annoying to him are the troubles with his nose and throat. He avenges himself on the merely incidental end-organs of his allergy by outraging these structures with surgery. The ethical and allergic truth is branded upon his own person that vengeance injures the avenger most.

COMBINED; ALLERGIC AND INFECTIOUS

Primary allergic conditions are often secondarily infected. Cure depends on recognition and relief of the allergy. The body then overcomes the infection in most cases. This does

TABLE II.

Differential Diagnosis of Allergic and Infectious Conditions of the Upper Respiratory Tract in Children (Cohen and Rudolph).

	ALLERGIC	INFECTIOUS
HISTORY		
1.	Attacks usually recurrent.	Attacks usually single.
2.	Often mild symptoms between attacks.	Usually clears up completely.
3.	Definite relation to heredity.	No relation to heredity.
4.	Not contagious.	Contagious
5.	Not related to exposure to another case.	Definite relation to exposure to another case.
6.	Constitutional symptoms slight.	Constitutional symptoms more marked.
7.	Foods and inhaled substances often traced as causes.	No relation to foods or inhaled substances as cause.
8.	Itching common.	No itching.
9.	Wheezing common.	No wheezing.
10.	Other allergic conditions present or in past history.	Usually no other allergic condition present or in past history.
EXAMINATION		
1.	Visible mucous membranes, pale, glistening, edematous.	Visible mucous membranes, hyperemic, red.
2.	Thin, watery, mucoid nasal discharge, mucoid sputum.	Mucopurulent or purulent nasal discharge or sputum.
3.	Smear shows eosinophiles in large numbers.	Smear shows polymorphonuclear neutrophiles as predominant cell; eosinophiles few or absent.
4.	Other signs of allergy often present.	No other sign of allergy.
5.	Sinus involvement of the edematous type.	Sinus involvement of purulent type.
6.	Wheezing breath sounds.	No wheezing breath sounds.
7.	Roentgenogram shows bronchial markings increased.	Bronchial markings not increased in roentgenograms.
8.	Allergic skin reactions usually positive.	Allergic skin reactions usually negative.
TREATMENT		
1.	Epinephrine specific for asthmatic symptoms.	No relief from epinephrine or ephedrine
2.	Avoidance of specific allergens followed by relief.	Avoidance of food or inhalant substances produces no change.

not preclude treatment for the infection when indicated.

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DISCUSSION

Dr. Thomas C. Galloway, Evanston: We probably all will agree with Dr. Tumpeer that the constitutional make-up of these patients is too often not considered. Allergy has many angles, and borders on many other conditions including endocrinopathies, calcium deficiencies and the like. Its manifestations may often be cleared up by attention to these.

A most difficult factor with allergy is superimposed infection. In these cases the allergist cannot give perfect relief. The infection and the allergy perpetuate each other and both need attention. The allergist should have the first opportunity, and if more treatment is needed it should in these patients be the most conservative to get results. Unfortunately the allergist does not function 100 per cent. perfectly.

Perhaps some surgery must be done and removal of adenoids, less often the tonsils, may give brilliant results in such cases. It is true that such surgery may precipitate an acute allergy, especially if done in the hay fever season. One must not promise too much but it has been shown that an open nasal airway is necessary for the proper development of the dental arch, the nasal chambers and the sinuses.

Other things may be considered as light zinc ionization, which seems of some value, and sclerotics in the turbinates. We hesitate to do anything that will scar the surface of the turbinates.

The question is not yet answered but there is progress.

Dr. Thomas D. Allen, Chicago: Not being a nose and throat man, but being allergic, I would like to ask some questions. I am allergic to a good many foods, and my family is full of allergic children, and I would like to know what to do about it. Do we have to treat patients with every substance to which they are allergic, or is there something that can be done in the way of general treatment that will affect the whole economy for our purpose?

Dr. I. Harrison Tumpeer, Chicago (closing): As to whether there is a "cure"—every year there is a new "cure" for hay fever—but you cannot change the patient's constitution. These remarks hold true for wheat germ oil, anterior pituitary injections, zinc ionization, viosterol intravenously and potassium chloride. If there were a simple, effective method of treating allergy, everyone would know and practice it.

The basis of managing an allergic patient is fundamentally the sound and thoughtful study applicable to any medical problem plus a special technic typified but not monopolized by skin testing. This includes a thorough history, physical examination, laboratory tests such as nasal smears, blood count, basal metabolic rate, gastric analysis, radiographic studies and electrocardiograms. After these come allergic technics such as skin, eye and nasal tests, patch tests, passive transfer and various types of dietary manipulations and environmental control. To perform skin tests first, if not foremost, is to grab the wrong end of the stick. To illustrate, an excellent clinician recently sent me his nurse-assistant to learn all about the performance of skin tests in four days. She had had no previous experience in allergy whatsoever, and apparently all he had had was the wistful hope to participate in the huge financial profits of an overflowing office based on the flourishing of a magic syringe with gusto. The situation to him was simple, and so simple, that he expected her to learn to interpret the tests all in four days. Mind you, interpretation of tests is based on the local reaction, but only when the interpretative eye is focussed far ahead on clinical experience. The attitude of my friend describes the general impression of allergy which the profession entertains. It is also illustrated in the discussion today.

I showed you the picture of a girl who had undergone tests at a good institution with some form of treatment but without a logical "follow-through" based on her history, environment and tests.

With regard to the question of multiple sensitivity and its treatment, all the foregoing still applies. Examine, test, interpret and treat, on the basis of all you have learned, the individual patient's problem and your training and experience. After all, even an allergist has learned a few things with regard to handling an allergic problem which is not readily translated to the profession at large. Similarly, every physician has been taught the nose and throat specialties in school and in his internship, but you specialists have acquired and perfected effective methods and technics peculiar to your specialty or to yourselves individually. Otherwise, you would scarcely deserve the name of specialists. You can do more with an ear, nose and throat problem than the general practitioner who only knows the subject in a general and, in the case of allergy, particularly, in a conceitedly uninformed and hazy manner.

The lymphoid, inflammatory-exudative and other types of diathesis which have been mentioned in the discussion are merely details in the general picture of the infantile diatheses. In the early days these peculiar reactors were called diathetic, and an attempt was made to break them up into distinct types. Even then, there was a disconcerting tendency for the findings of the exudative to crop out in the thymicolymphatic and so on. Yet all these types had one factor in common which we can now interpret in the light of allergy, namely, a tendency to react in a manner different from the average. There you have the definition of allergy. By spotting these children as allergic we have taken a step forward in our understanding, and therefore treatment, of the condition.

I emphasized that hyperesthetic rhinitis may close the ostia of the sinuses and thereby permit the devel-

opment of a true sinusitis. When this happens in the developing child, proper ventilation and formation of the structures is retarded. This will reflect itself in the appearance of the face, with depressions about the nose and pinched features which are usually attributed to adenoids. The jaw is narrowed, and a large percentage of children requiring orthodontia are allergic.

It is admitted that the etiologic diagnosis of allergic rhinitis is far from perfect. Cohen and Rudolph in Cleveland developed direct nasal testing with allergens and reduced the number of failures in these cases.

It is agreed that sometimes striking improvement is seen with thyroid therapy. This does not mean that the individual is not allergic or that one can ignore the factors to which the patient is sensitive. As an example of this type, I mention a woman in the thirties, whose children are patients, with previous indications of allergy, but not sufficient to be clinically important. She developed a marked allergic rhinitis, and a tendency to wheezing with definite asthma eventually. The asthmatic episodes occurred significantly about nine o'clock in the evening when she was accustomed to sit in the living room with the family and read. Her husband observed that she began her attacks at this hour when the heat was turned down in the apartment, and he attributed it to chilling. At other times her attacks would awaken her at four or five in the morning, a period of low body temperature. From my previous acquaintance with the patient, I got the impression that she was getting heavy and solid looking, and there was a sort of dullness and lack of interest in her demeanor. She volunteered that her children irritated her and that she was aware of the change in her personality. Her husband complained that she could not even be interested in going out to buy new clothes. To clinch the suspicion that she was sensitive to cold, that she was reduced in metabolism, was her statement that she was following a reducing diet but gaining in spite of these measures. Incidentally, she had consulted internists as well as some of your colleagues. Her basal metabolic rate was minus 17%. With desensitization to her inhalant allergens and a dosage of thyroid extract of one and one-half grains daily, she improved dramatically, not only from the standpoint of her nasal symptoms, but in reduction of weight so that her face no longer looked thick, in her enhanced and restored interest in people and places, and her renewed enthusiasm for clothes. That should be the end of the thyroid sentence. The rest of the story includes the fact that her nose fills up and runs as soon as she enters the reception room if many others are present. The other day she attended a luncheon given for the parents of the school her child attends. She could hardly wait to get out because she was affected by the cosmetics and perfumes of the crowd of women. Here is an illustration of the importance of the endocrine glands, notably the thyroid, on the development of allergic symptoms or, at least, an example of the therapeutic effect of such substances. The same story can be told with regard to the ovarian preparations. On the other hand, these people are allergic and can be so demonstrated from the standpoint of tests and clinical experience of their own, particularly with regard to environment and treatment.

The point of the whole paper is simply this. From the negative side there is no quarrel with surgical indications in the field of ear, nose and throat surgery. I have several patients now whom I have referred within the past few weeks, and one is having a tonsillectomy today. Obstructions must be removed. Infections must be cleared and drained. However, if the obstruction is on the basis of nasal polyps or allergic rhinitis with difficult nasal breathing, and if the infection is on the basis of a sinusitis secondary to allergy of the nose the condition will recur to plague the operator unless the underlying allergic situation is corrected. If the patient is given the benefit of allergic treatment first, the surgery will be vastly more successful, and in the long run there will be greater satisfaction and sense of accomplishment for both patient and doctor.

CONTROL OF SYPHILIS IN PREGNANT WOMEN

HERMAN M. SOLOWAY, M. D.
Venereal Disease Control Officer
Springfield, Ill.

It is a well known fact that untreated syphilitic mothers will bear only 16 per cent. of normal non-syphilitic children, the remaining 84 per cent. being represented by miscarriages, stillbirths and living syphilitic babies. This information has been substantiated by downstate physicians, giving the results of the outcome of pregnancies of luetic women, as mentioned on the Confidential Report of Venereal Diseases sent to the Illinois Department of Public Health at Springfield.

The writer began to formulate a plan whereby these cases would be singled out, card indexed and placed in a group which could be managed in such a way that the incidence of prenatal and congenital syphilitics could be greatly de-

Since this article was submitted for publication, the number of syphilitic pregnant women reported by private physicians has increased to over 300 cases. This marked increase was brought about by the private physician's interest in our efforts and the inception of the State pregnancy law, July 1, 1939, providing for blood testing of all pregnant women. A similar number of luetic pregnant women are under care in our free clinics. A complete and detailed report of these luetic pregnancy cases will be submitted for publication at a future date.

Read before Meeting of the State Health Officials, Round Table Discussion of Venereal Disease Control Programs, March 30, 1939, Chicago, Illinois.

From the State Department of Public Health, Doctor Albert C. Baxter, Director.

creased if not entirely eradicated. There is no doubt that these tragedies may be prevented with almost absolute certainty, if syphilis in the mother is recognized early and treatment begun before the fifth month.

The plan of management of these cases include:

Special File
Personal Letter to Physician
Prescheduled Treatment Outline
Free Drugs
Free Nursing Service
Follow-up

SPECIAL FILE

The Special File is made up of all cases of syphilitic pregnant women reported to the State Department of Public Health and consists of all the information pertinent to each case, such as the approximate date of conception and delivery, duration and type of luetic infection, the report of serological tests, the amount of treatment already administered and the complete record of the amount of treatment to be given, as well as the outcome of the confinement and a check-up on both the mother and child including a complete physical examination of both and a blood test of the mother and an umbilical cord Wassermann of the child.

PERSONAL COMMUNICATION

A personal letter is sent to every attending physician reporting a case of syphilis in pregnant women, notifying him of our special interest in this type of case and informing him of the statistics of the outcome of treated and untreated cases as reported by Jeans, Turner and McKelvey. Jeans' compilation from the literature of the outcome of four thousand (4000) syphilitic pregnant women, reveals that 16.6 per cent. normal and healthy non-syphilitic children were born; 30 per cent. terminated with miscarriages or still-births; 30 per cent. of the babies died in infancy and 24 per cent. survived with a congenital luetic condition.

Turner and McKelvey reported their results in 675 cases on the influence of the time when antiluetic treatment was begun upon the outcome of pregnancy. They have shown that 91.3-95.5 normal non-syphilitic children were born when active treatment was instituted before and during pregnancy.

An earnest plea is made to the doctor to start antiluetic treatment immediately and continue same through pregnancy when infection is found in the course of prenatal medical service.

PRESCHEDULED OUTLINE

A scheme of treatment for the pregnant syphilitic woman is enclosed in this letter and it provides for a weekly intramuscular injection of bismuth throughout the term of pregnancy and eight to ten intravenous injections of neoarsphenamine in 0.3, 0.45 and 0.6 gram dosage, with an occasional four-week rest period until delivery. This scheme of continuous neoarsphenamine-bimuth treatment of the pregnant syphilitic woman is recommended by the State Department of Public Health and is essentially the same which has been used by the Departments of Dermatology and Obstetrics of the University of Illinois with very excellent results. General precautions such as slow administration of drug, the examination of the blood pressure, mother's sclerae and urine analysis are also mentioned in this scheme of treatment.

FREE DRUGS

Neoarsphenamine in the dosages mentioned above and bismuth in oil is recommended in the treatment of these cases; however, mapharsen, thio-bismol or colloidal mercury sulphide may be substituted on the recommendation of the attending physician.

FREE NURSING SERVICE

Through the cooperation of the Division of Child Hygiene and Public Health Nursing, as well as the Division of Child Welfare, we have been able to furnish free of charge the services of a public health nurse for indigent cases for prenatal, delivery and post partum assistance. We furnish the services of a nurse only on the written request of the attending physician. The District Nurse living in the same county is assigned to the physician and makes regular calls on the patient during prenatal period, assists at delivery and makes post partum calls. This service has very recently been established and we feel positive that it will prove beneficial to doctor as well as patient.

FOLLOW-UP

A complete check-up of outcome of pregnancies must be considered of the utmost importance in this entire procedure of the control of

syphilis in pregnant women. Our entire efforts can only be evaluated by an accurate check-up of the above procedure, including a cord Wassermann, a placental histology, x-ray of the entire skeleton and a pediatric follow-up in the questionable cases where these facilities are obtainable. A re-check on the blood serology of both mother and offspring is recommended routinely. We intend to follow the child clinically and serologically every sixth month until it has reached the age of two years.

ANALYSIS OF CASES OF PREGNANT SYPHILITIC WOMEN REPORTED

There were sixty-two cases of syphilitic pregnancies reported since December 15, 1938, at which time we adopted the above plan of procedure in the management of these cases. An analysis of these reported cases reveals the following facts:

Race: There were 58 white and four colored women.

Age: There were 42 cases between the ages of 15 and 25; 19 between 25 and 35 and one case the oldest in the group, was 44 years old.

Diagnosis: There were two cases of secondary lues; 57 cases of asymptomatic syphilis of less than four years duration; one case of asymptomatic syphilis of more than four years duration; two cases of congenital syphilis.

The outcome of the 24 cases which have been delivered to this date reveal that 18 of them were placed under active treatment before the fifth month and continued same until delivery. Seventeen of these 18 cases have delivered normal healthy children, with negative blood. Only one gave birth to a syphilitic child with a positive cord Wassermann.

There were two cases which received irregular and interrupted treatment, one from the sixth month and the other from the eighth month of pregnancy, and they terminated in one still-birth and a luetic living child with positive blood.

There were four cases which had no treatment during pregnancy and they resulted in three

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A SCHEME OF TREATMENT OF THE PREGNANT SYPHILITIC WOMAN*

Illinois Department of Public Health, Springfield

Week	Neoarsphenamine	Interim Treatment		Kahn or Wassermann reaction	Remarks
1	0.3 gms.	Bismuth Salicylate	1 cc.	Check	Blood Wasserman should be done on every PREGNANT woman. Complete physical examination, urine analysis and blood pressure.
2	0.3	Intramuscularly	1 cc.		
3	0.45		1 cc.		
4	0.45		1 cc.		
5	0.6		1 cc.		
6	0.6		1 cc.		Treatment is for the child. Mother can be treated AFTER delivery. Drug must be administered very slowly.
7	0.6		1 cc.		
8	0.6		1 cc.		
9	Rest Period		1 cc.		
10	Four		1 cc.		If diagnosis of Syphilis is made at 3 or 4 months of pregnancy, plan treatment to start and end with neoarsphenamine.
11	Weeks		1 cc.		
12	0.3		1 cc.		
13	0.3		1 cc.		
14	0.45		1 cc.		Continuous treatment.
15	0.45		1 cc.		
16	0.6		1 cc.		Patient receives the bismuth salicylate intramuscularly every week throughout pregnancy (no rest).
17	0.6		1 cc.		
18	0.6		1 cc.		Watch mother's sclerae and repeat urine analysis.
19	0.6		1 cc.		
20	Rest Period		1 cc.		
21	Four		1 cc.		
22	Weeks		1 cc.		Mother's Wassermann taken one week before delivery.
23	0.3		1 cc.		
24	0.3		1 cc.		
25	0.45		1 cc.		Infants Study: 1) Cord Wasserman.
26	0.45		1 cc.		2) Placental Histology.
27	0.6		1 cc.		3) X-ray of entire skeleton.
28	0.6		1 cc.		4) Pediatric follow-up for at least 6 months.
29	0.6		1 cc.	Check	
30	0.6		1 cc.		

EACH PATIENT MUST BE TREATED AS AN INDIVIDUAL CASE

SUBSTITUTION OF any of the above drugs will be made at the attending physician's recommendation and selection

*The scheme of CONTINUOUS neoarsphenamine-bismuth treatment of the pregnant syphilitic woman outlined above has been recommended by the Illinois Department of Public Health and is essentially the same prepared under the direction of the Department of Dermatology (Senear) and successfully used by the Department of Obstetrics (Falls) of the University of Illinois.

still-births and one luetic child with positive blood and clinical evidence of infection.

The remaining thirty-eight cases which will be confined in the near future have been carefully checked and found to be receiving antiluetic treatment. The outcome of these pregnancies will be closely observed as to the amount of antiluetic treatment each received, the result of each pregnancy with blood tests of both mother and child. If blood tests are negative, a re-check will be made every six months up to two years. If positive however, treatment will be instituted as soon as possible.

This is a preliminary report of all the cases of syphilis in pregnant women (62) reported to the State Department of Public Health since December 15, 1938. A more detailed discussion of syphilis in pregnant women together with all pertinent facts of each case and the results of all the cases reported here, including all future case reports will be published at a later date.

LABORATORY STUDIES IN HUNTINGTON'S CHOREA

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CHICAGO

Although almost five hundred papers dealing with the various aspects of Huntington's chorea have appeared in the literature since 1841, only five have been concerned primarily with laboratory studies of that disease.

In 1910, Pighini and Alzina[1] discussed their research studies on metabolism in Huntington's chorea. The following year, Lorenz[2] reported negative spinal fluid findings in two cases. In 1912, Mulon and Porak[3] in a case report, speculated on adrenal changes with associated cholesterol and pigment changes. Huhnerfeld[4] in 1931 presented studies of blood sugar and calcium, blood sedimentation and hemograms. Finally in 1935, Bize[5] in a paper on clinical and humoral studies, presented the most complete laboratory study made up until that time, using, however, only one case. He found a hypocalcemia, an increase in blood magnesium, an increase of blood bromides associated with a decrease in the chlorides, and a hypoglycemia. He concluded that the parathyroid may have been playing a role in the case.

Fifteen cases of Huntington's chorea at the Elgin State Hospital were given a series of laboratory examinations. These involved complete spinal fluid examinations including cell counts, Wassermann and globulin tests, colloidal gold curves, and sugar and chloride determinations. On the blood, complete counts, Wassermann and Kahn reactions and chemistry examinations for sugar, non-protein nitrogen, creatinine, chlorides, calcium, cholesterol and phosphorus partition were done. Icteric index determinations, Van den Bergh tests and sedimentation rates were also ascertained. Glucose and insulin tolerance determinations, and the Walther permeability tests were done, as well as basal metabolism tests wherever possible. Complete urinalysis, microscopic and macroscopic, completed the series of tests.

Two of the patients expired shortly following their admission to the hospital and not all of the tests had been completed at the time of their death. As a control, one typical case of senile (chronic progressive) chorea is included as the last in the series. (J. L.)

The tables below are self-explanatory.

Table 1 reveals no abnormal findings except for decreased chlorides, moderately increased blood calcium and increased blood cholesterol in an elderly choreic who was quite dehydrated and seriously ill at the time (J. C.). The other elderly choreic who expired within a relatively short period of time (M. N.) presented findings of cardio-renal-vascular disease associated with an elevated blood non-protein nitrogen and creatinine, as well as a moderately elevated blood sugar. The blood phosphorus and sedimentation rates were not obtained on either of these cases, or on the senile choreic.

Table 2 reveals no definite abnormal spinal fluid findings. The Walther bromide permeability test was conducted according to the standard technique and the quotient was normal or even a little elevated in the most typical cases. In the control case of senile chorea which is the last one in this table, the quotient was 2.30.

Table 3 presents studies in the carbohydrate

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We are deeply indebted to Mr. DeLester Sackett, Director of the Laboratory of The State Psychopathic Institute, for his invaluable assistance in this work.

TABLE 1—URINE AND BLOOD EXAMINATIONS

Patient	Urinalysis	Blood Wass. & Kahn	Blood Count	Blood Calcium	Blood Phosphorus	Blood Chlorides	Blood Cholersterol	Blood Sugar	N. P. N.	Creat	Icteric Index	Vandenbergh	Blood Sedimentation
G. K.	Neg.	Neg.	Nor.	9.1	3.3	462.0	193.3	85.1	29.0	1.87	7.1	Neg.	Mod. Act.
A. H.	Neg.	Neg.	Nor.	11.70	3.6	445.5	140.0	75.2	30.6	1.42	1.5	Neg.	Sl. Act.
A. A.	Neg.	Neg.	Nor.	10.20	3.49	445.5	121.0	88.8	26.9	1.29	9.8	Neg.	Nor.
T. C.	Neg.	Neg.	Nor.	11.20	3.72	495.0	160.0	75.4	26.6	1.25	6.7	Neg.	Sl. Act.
A. J.	Neg.	Neg.	Nor.	11.03	3.39	478.5	155.0	94.7	31.4	1.15	3.4	Neg.	Mod. Act.
M. S.	Neg.	Neg.	Nor.	11.10	3.7	526.2	152.5	75.4	35.1	1.54	8.5	Neg.	Nor.
M. N.	Neg.	Neg.	Nor.	10.90		405.0	179.8	114.2	73.8	2.14	7.0	Neg.	
J. C.	Neg.	Neg.	Nor.	12.2		157.72	251.4	76.5	38.2	1.52	12.0	Neg.	
C. A.	Neg.	Neg.	Nor.	11.90	2.97	445.5	150.7	82.6	36.3	1.70	4.0	Neg.	Mod. Act.
M. B.	Neg.	Neg.	Nor.	9.3	3.2	460.3	148.5	86.9	39.0	1.51	6.9	Neg.	Nor.
T. S.	Neg.	Neg.	Nor.	10.60	3.26	429.0	122.2	76.3	25.6	1.32	11.0	Neg.	Nor.
E. H.	Neg.	Neg.	Nor.	9.9	3.48	396.0	128.7	91.0	30.2	1.47	5.0	Neg.	Nor.
R. H.	Neg.	Neg.	Nor.	11.0	4.00	445.5	135.3	83.3	32.1	1.37	8.0	Neg.	Nor.
H. B.	Neg.	Neg.	Nor.	10.8	3.61	455.5	125.0	98.0	28.3	1.31	6.7	Neg.	Nor.
R. M.	Neg.	Neg.	Nor.	10.4	3.60	396.0	166.6	75.5	37.0	1.69	6.0	Neg.	Nor.
J. L.	Neg.	4 +	Nor.	10.80		528.0	186.6	95.6	32.0	1.58	7.0	Neg.	

TABLE 2—SPINAL FLUID TESTS

Patient	Cell Count	Pandy	Ross Jones	Wass.	Sugar	Chlorides	Lange Gold Curve	Permeability Quotient
G. K.	1	Neg.	Neg.	Neg.	64.5	709.5	0111100000	3.45
A. H.	1	Neg.	Neg.	Neg.	68.0	720.0	0000000000	3.50
A. A.	10	Neg.	Neg.	Neg.	71.9	676.5	0000000000	3.00
T. C.	1	Neg.	Neg.	Neg.	75.4	742.5	0000000000	2.86
A. J.	2	Neg.	Neg.	Neg.	93.0	726.0	0000000000	2.62
M. S.	1	Neg.	Neg.	Neg.	72.0	702.0	0000000000	2.66
C. A.	1	Neg.	Neg.	Neg.	60.6	724.0	1111100000	3.31
M. B.	1	Neg.	Neg.	Neg.	62.5	676.5	0000000000	2.90
T. S.	5	Neg.	Neg.	Neg.	67.1	704.0	0000000000	3.19
E. H.	1	Neg.	Neg.	Neg.	80.0	693.0	0000000000	3.15
R. H.	6	Neg.	Neg.	Neg.	75.5	676.5	0000000000	3.00
H. B.	1	Neg.	Neg.	Neg.	78.0	575.5	0000000000	3.00
R. M.	2	Neg.	Neg.	Neg.	91.0	676.5	1111000000	3.15
J. L.	7	+	+	Neg.	62.5	726.0	0000000000	2.30

metabolism. The results show glucose and insulin tolerance curves of various types with no specific or distinctive pattern that stands out as being of special importance.

Table 4 reveals studies of the phosphorus partition of the blood.

SUMMARY

1. Fifteen patients suffering from Huntington's chorea were given extensive laboratory investigations including complete urine, blood and spinal fluid examinations. These were, more specifically, blood serological examinations, complete blood counts, blood sugar, non-protein nitrogen, creatinine, chloride, calcium, cholesterol, phosphorus partition, icteric index determinations, Van den Bergh tests, glucose and insulin tolerance determinations, Walther permeability tests, blood sedimentation rate evaluations, oxygen consumption rates wherever possible, spinal fluid cell counts, Wassermann and globulin tests, Lange gold curve, sugar and chloride determinations and complete qualitative urinalysis with microscopic examinations.

2. The results of all of these tests have been of an essentially negative nature throughout.

3. It would appear that there are no signifi-

TABLE 3—STUDIES IN CARBOHYDRATE METABOLISM

Patient	Glucose Tolerance	Insulin Tolerance
G. K.	85.1-117.6-117.6- 72.7- 80.0- 55.0	75.7-64.5-57.1-40.0-52.6-57.1
A. H.	75.2-117.6-153.8-160.0-136.0-105.3	66.6-64.5-52.6-55.5-55.5-55.8
A. A.	88.8-105.2-125.0-137.9-153.8-140.8	83.3-72.2-54.0-41.5-52.4-66.6
T. C.	72.7-111.1-106.9- 86.9- 68.9- 86.5	71.4-66.6-57.6-57.6-50.0-50.0
A. J.	94.7-133.3-173.9-141.8-106.4-105.3	74.0-60.6-42.0-42.9-53.7-58.8
M. S.	75.4- 96.9-128.0-127.3-124.2- 93.0	83.3-66.6-57.1-51.8-60.6-60.6
C. A.	82.6-114.2-116.2-114.9- 90.9- 88.8	74.3-60.6-44.0-40.3-49.5-51.0
M. B.	76.5-136.0-104.7-114.9- 66.6- 93.0	83.0-74.3-69.6-56.9-55.5-54.3
T. S.	76.3- 81.3- 91.9- 81.3- 71.1- 64.5	79.7-72.2-63.0-51.3-44.4-88.0
E. H.	93.0-126.1-161.2-106.3- 74.6- 72.7	71.4-47.6-35.7-42.9-51.3-52.6
R. H.	97.1-114.3-125.0-166.7-151.5-142.3	95.2-76.9-66.6-74.1-66.6-66.6
H. B.	93.4-111.1-125.0-109.3- 90.5- 92.0	100.0-86.9-62.5-74.1-71.4-62.5
R. M.	75.5-166.7-160.0-160.0-125.0-100.0	82.3-95.2-80.9-61.9-51.4-71.4
J. L.	76.9-111.1-160.0-160.0-137.9-117.6	

TABLE 4—PHOSPHORUS PARTITION TEST

Patient	Acid-Soluble Inorganic P.	Acid-Soluble Organic P.	Total Acid-Soluble P.	Lipin P.	Total P.
G. K.	3.3	19.4	22.7	16.7	39.9
A. H.	3.60	18.6	22.2	12.1	34.5
A. A.	3.49	22.91	26.4	12.2	38.1
T. C.	3.72	23.08	26.8	11.6	37.9
A. J.	3.39	16.41	19.8	15.4	34.9
M. S.	3.7	25.5	29.2	14.2	43.4
C. A.	2.97	19.93	22.9	10.9	33.0
M. B.	3.2	21.8	25.0	13.0	38.1
T. S.	3.26	23.34	26.6	10.0	36.0
E. H.	3.48	17.42	20.9	9.9	30.2
R. M.	3.60	21.00	24.6	17.3	42.1

cant gross humoral changes in Huntington's chorea, with no appreciable qualitative or quantitative variations in the more important humoral constituents.

METHODS

1. Benedict's Method (sugar).
2. Folin-Wu Method (creatinine, N. P. N. and chlorides).
3. Tisdall Method (calcium).
4. Bloor's Method (cholesterol).
5. Fiske and Subbarow Method (phosphorus partition).

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THE USE OF PICROTOXIN IN ACUTE BARBITURATE POISONING

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Picrotoxin has been shown to have striking antidotal properties in experimental barbiturate poisoning.[1,2,3,4] Reports of the use of picrotoxin in cases of barbital poisoning in man soon followed.[5,6,7,8] The Council on Pharmacy and Chemistry of the American Medical Association, however, requested that picrotoxin be withheld from the market until further data could be gathered concerning the use of the drug in man.[9] In a recent report[10], the Council reviews 27 reported cases and indicates that additional data are desirable.

It is the purpose of this communication to report two additional cases. Although the amounts of barbiturate ingested were not massive, the lapse of time before discovery was ample for complete absorption of the drug, and the symptoms were so marked that both cases were classified as severe barbiturate poisoning.

Case No. 1: Mrs. O., a 30-year old white housewife, was admitted to Chicago Lying-In Hospital Oct. 7, 1937 at 10:50 a.m. in deep coma. She was known to be about three months pregnant. Her husband stated that since Sept. 15th she had become very lethargic and inattentive to household duties, the condition becoming progressively worse. On Oct. 6, the husband returned home at 11:00 p.m. and found the patient asleep in bed. Although she did not awaken as usual, he thought nothing of it. It was not until he attempted to awaken her at 9:00 a.m. the next morning that he discovered that she could not be aroused.

On admission to the hospital, the patient was in a profound coma. The pulse was 84 per minute, the temperature was 99.0° F., and the respiratory rate was 24 per minute. She did not respond to command or to any form of painful stimulation. The general musculature was entirely flaccid. The neck likewise was flaccid. The pupils were regular, equal, and responded to light. Otherwise all superficial and deep reflexes, including the corneal and pharyngeal, were completely abolished. Pathological reflexes could not be elicited. There was a marked urinary retention causing a bulging in the lower abdomen.

Gastric lavage was done soon after admission. On lumbar puncture the cerebrospinal fluid was found to be clear and colorless with a negative Pandy test and the absence of cells. The initial cerebrospinal fluid pressure was 180, rising to 200 on compression of the right jugular, 280 on compresing the left jugular, and 400 on compressing both. Venous blood obtained soon after admission revealed the following: nonprotein nitrogen, 34 mg. per cent.; sodium chloride, 610 mg. per cent., and blood sugar, 99 mg. per cent. Urinalysis revealed no abnormalities. The leukocyte count was 4,500.

Although the patient was not known to have taken any drugs, and a careful search of the home revealed no evidence of her having done so, a tentative diagnosis of drug intoxication was made by the exclusion of other causes of coma. Subsequently, the patient stated that she had taken 36 grains of phenobarbital on the evening of October 6th.

Table I records the treatment employed with special reference to the use of picrotoxin, together with the

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changes in the clinical condition. A total dosage of 99 mg. of picrotoxin was administered. Although several other forms of stimulation were employed, because of the spacing of the treatment there can be little doubt that picrotoxin elicited a marked awakening phenomenon, whereas the other treatments did not evoke any demonstrable response. We were able to demonstrate this awakening response repeatedly, twice followed by a relapse into coma, because only two small, inadequate supplies of the drug could be obtained early in the course. It was not until the afternoon of October 8th that an adequate supply of the drug was obtained.

The striking improvement in the peripheral circulation that occurred with the use of picrotoxin is noteworthy. Before the onset of treatment, the extremities were very cold and markedly cyanotic. During the administration of the first 18 mg. of the drug (during one hour, and twenty-three minutes), the toes and fingers became warm and pink. Thereafter this improvement in the peripheral circulation was maintained, although a subsidence of the motor phenomena and a relapse into deep coma accompanied withdrawal of the drug.

About two hours after the onset of picrotoxin injections, several large blood clots were passed vaginally. Thereafter bleeding continued moderately for nine and one-half hours, when a complete abortion occurred. The fetus weighed 12.5 grams. It was in good condition and showed no abnormalities.

On October 14th the patient seemed to be completely recovered from the barbital poisoning. The urea clearance was normal. She was transferred to the Psychiatry Division for further care.

Case No. 2: Mr. L., a 23-year old, white, single, male university student, suffering from auditory hallucinations, took nine five-grain tablets of veronal (3 gm.) in a suicidal attempt on February 8, 1938. Simple restorative measures by a physician at his hotel sufficed to restore him to consciousness, making hospitalization unnecesary at the time. On February 12, 1938 he took twenty-five five-grain tablets (8 gm.) at about 7 p.m. He was not found until 2:40 p.m. the next day. Because of the known attempt four days previously, barbiturate poisoning was suspected and the patient was brought to the University of Chicago Clinics at 3:40 p.m., about twenty-one hours after the ingestion of the drug.

On entrance the patient was in a deep coma. All reflexes, including the corneal, were absent and the musculature was completely flaccid. The extremities were cold and cyanotic. He appeared very malnourished and dehydrated, making him seem to be a poor risk. There was no evidence of injury. The pulse rate was 160 per minte, the respiratory rate, 40 per minute, and the blood pressure was 100/64. These remained fairly constant throughout the night. The body temperature (taken rectally) rose abruptly from 102.4° F. on admission to 105.6° F. Shortly afterward there was an abrupt drop to 100° F. followed by a gradual rise to 103.4° F. where the temperature remained during the following twenty-four hours.

The patient was given caffeine sodiobenzoate, 0.5 gm. subcutaneously when first seen by his physician at 3 p.m. February 13th, and again at 3:40 p.m. when he arrived at the hospital. Coramine 1.5 cc. was also injected. Further emergency measures consisted of copious gastric lavage with instillation of magnesium sulphate and a venoclysis of 10 per cent. dextrose solution. (Later analysis of gastric contents and urine specimens showed a high barbiturate content.) Picrotoxin was started at 5:20 p.m. by intravenous injections at approximately the rate of 1 mgm. per minute, close observation being maintained meanwhile for twitching or change in the activity of the vital systems. At 5:54 p.m. (after the injection of 53 mg. of picrotoxin over a period of 34 minutes) generalized muscular twitching was evident, so the injection was stopped for ten minutes. Then more picrotoxin was given until 6:10 p. m. when the patient had three spasmodic, generalized convulsions lasting fifteen to twenty seconds (after a total dosage of 65 mg. picrotoxin in 50 minutes). Picrotoxin was then withheld until 7:30 p.m. During the above procedure, the patient was also given small doses of caffeine (0.25 gm.) and coramine (1 cc.) on alternate hours. He was then moved from the emergency room to a ward room, where 500 cc. of citrated whole blood was given. After nine more milligrams of picrotoxin were given (7:40 p.m.), he responded slightly to questions and sensory stimulation and the deep reflexes were obtained, but on discontinuing the drug he lapsed back into coma. Profuse mucous secretion was aspirated from his throat. At 9 p.m. he responded only slightly to an injection of 1 cc. of coramine. At 9:30 p.m. 1500 cc. of 5 per cent, glucose was given intravenously. Between 10:40 p.m. and 12:40 a.m. the patient was given 21.75 mgm. picrotoxin with two ten minute periods of lucidity during which he was able to drink fluids and speak a few words in response to questions, but he soon lapsed back into coma when the drug was discontinued. Caffeine, coramine, ephedrine, and adrenalin in small doses were continued at intervals throughout the night. At 3 a.m. (February 14th) the patient's blood pressure dropped suddenly but it recovered quickly to stimulation and the intravenous injection of 50 cc. of 50 per cent. glucose. At 4:15 a.m., 500 cc. of 10 per cent. glucose were given intravenously. The blood pressure now remained fairly stable at 100/70 until 10 a.m. when it dropped to 90/50, but quick response again occurred when 50 cc. of 50 per cent. glucose were injected intravenously. There was another sudden drop at 1:15 p.m. with good recovery upon immediate support. The patient continued to respond more successfully throughout the day. A total dosage of 109 mg. of pictrotoxin was used.

On February 15th physical findings suggested a left-sided pneumonic process in the midlung field which was verified by roentgenograms. The usual routine of isolation, sputum typing, blood, and throat cultures was followed, but the organisms were not identified. Resolution was apparent February 19th, with total recovery from the bronchopneumonia by February 24th. Following February 16th he was much more alert, gave

Time	Treatment Other Than Picrotoxin	Picrotoxin	Blood Pressure	Response to Treatment
Oct. 6, 1937				
11:00 p. m.				Patient found sleeping in bed.
Oct. 7				
10:50 a. m.	Admitted to hospital			Deep coma, cyanotic, and cold. All reflexes absent; musculature, flaccid; no response to painful stimuli.
11:15	Gastric lavage			
3:30 p. m.	1000 cc. 5% glucose in Ringer's solution			No change
5:30	Metrazol, 1 cc.			No response
7:30	Metrazol, 1 cc.			No response
	Caffeine sodiobenzoate, 0.50 gm.			
9:02		3 mgm. intravenously	96/66	Patient still in deep coma, cyanotic, and absent reflexes.
9:25		3 mgm. intravenously	96/68	
9:42		3 mgm. intravenously	95/68	
10:07	1000 cc. 20% glucose	6 mgm. intravenously	102/64	Wrinkled forehead, moved mouth.
10:25		3 mgm. intravenously (Supply exhausted)	100/66	Moved head; fingers and toes pink and warm.
10:52	Caffeine sodiobenzoate 0.5 gm.			Motor activity subsiding; several large blood clots passed vaginally.
11:45		6 mgm. intravenously	100/66	No motor activity.
Oct. 8				
12:04 a. m.		6 mgm. intravenously	96/66	Yawning.
12:18		6 mgm. intravenously (2nd supply exhausted)	100/66	Moving head and legs; facial movements; corneal and pharyngeal reflexes present; general restlessness; Babinski normal.
1:00	Coramine 1.5 cc.			Motor phenomena subsided; no movements or reflexes.
3:30	Coramine 1.5 cc.			No response
5:15	Coramine 1.5 cc.			No response
7:15	Coramine 1.5 cc.			No response
8:30				Complete abortion.
8:35	Pituitrin, 1 cc.			
8:40	Ergotrate, 1 cc.			Patient quiet and inactive.
10:00	2000 cc. 10% glucose in Ringer's solution			No change.
11:00	Caffeine sodiobenzoate 0.5 gm.			No response
2:04 p. m.		6 mgm. intravenously	94/70	No motor activity.
2:17		3 mgm. intravenously	98/80	Raised head; wrinkled brow; moved eyelids; attempted to swallow; general restlessness.
3:06		3 mgm. intravenously	100/78	Moved eyelids; attempted to swallow; general restlessness.
4:25		6 mgm. intravenously	105/80	Restlessness continues.
4:53		3 mgm. intravenously		Less restless.
9:00		3 mgm. subcutaneously		
11:00		3 mgm. subcutaneously		
Oct. 9				
1:00 a. m.		3 mgm. subcutaneously	100/68	
3:00		3 mgm. subcutaneously	98/58	
5:00		3 mgm. subcutaneously		Restless; opens eyes when name is called;
		3 mgm. subcutaneously		crying and moaning.
7:00		3 mgm. subcutaneously	98/58	
9:00		3 mgm. subcutaneously	108/54	Restless for 20 minutes after injection.
10:00		3 mgm. subcutaneously	104/56	Restless.
11:00	2500 cc. 10% glucose in Ringer's solution	3 mgm. subcutaneously	108/56	Moving head and legs; yawning.
1:00 p. m.		3 mgm. subcutaneously	108/56	
2:00	Gavage feedings	3 mgm. subcutaneously	110/54	Restless.
3:00		3 mgm. subcutaneously		
4:00	Blood transfusion 525 cc.			
7:00		3 mgm. subcutaneously	110/80	Very excitable.
9:00	1200 cc. Ringer's solution		98/60	Attempting to speak.
Oct. 10				Very restless; talkative; irrational; sleeps much of the time.
Oct. 11				All reflexes normal; vision blurred; fairly rational; emotionally unstable; still very sleepy.
Oct. 12				Rational and very talkative; abnormally cheerful; general condition good.
Oct. 13				Transferred to Division of Psychiatry.

many evidences of hallucinations and delusions of a persecutory nature. He was disoriented, misidentified people, feared attack, condemned himself for wrongdoing. The mood was depressed. He continued in this state until February 21st, when he became more cheerful. Efforts to help him overcome his emotional problems were not effective and stopped with his discharge on March 12th. His physical condition on that day was much improved. Psychiatric diagnosis was schizophrenia of the paranoid type. The possibility of cortical injury due to the drug could not be evaluated because of the psychosis.

Unfortunately we cannot evaluate accurately the part played by picrotoxin in the physical recovery of this patient. He seemed so poor a risk that many stimulants were given, not to mention the urgent necessity of maintaining vascular support by large amounts of blood, glucose, and fluids.

COMMENT

Because of the wide variations in the lethal dose of barbiturates, it is not known that either of these patients had taken lethal doses of the drug. However, the lapse of many hours before treatment was instituted (twelve to eighteen hours in Case 1 and twenty-one hours in Case 2) allowed complete absorption of the ingested drug to take place. The deep coma, absence of reflexes, flaccidity of musculature, and cyanosis present on admission pointed to a serious poisoning in both cases.

In order to fully judge the therapeutic merits of a drug, it is important that no other treatment be employed. Unfortunately, this condition could not be observed in either case. It has been pointed out by Bleckwenn and Masten[8], Rovenstine[7] and others that other forms of treatment should not be sacrificed to the exclusive use of picrotoxin. They recommend the additional use of gastric lavage, purgation, continuous oxygen, diuresis by parenteral fluids and intravenous sucrose, administration of dextrose to prevent acidosis, and blood transfusions. In Case 2, the repeated cardiovascular collapse made additional supportive measures seem lifesaving necessities. However, in Case 1, the spacing of the various treatments made the beneficial effects of the picrotoxin seem fairly certain, whereas the other stimulants seemed ineffective. In both cases, picrotoxin repeatedly produced definite awakening phenomena which subsided on withdrawing the drug.

A complete abortion occurred in Case 1 shortly after the onset of picrotoxin therapy. It is debatable whether the abortion resulted from the treatment or from the barbiturate poisoning itself. Anoxemia, which was present to a marked degree, is known to be a cause of uterine contractions. However, the experimental work of Kunisho[11] suggests that the picrotoxin may have been the cause of the abortion. He found that small doses of picrotoxin always stimulated the uterus of the rabbit.

Bronchopneumonia is a frequent complication of barbiturate poisoning, and at times it may cause a fatal termination in cases that would otherwise recover. The decreased or absent pharyngeal and associated reflexes, allowing aspiration, are probably important etiological factors. Picrotoxin, by shortening the period of coma, should eliminate or mitigate this important complication in many instances. It is conceivable that the abortive bronchopneumonia in Case 2 may have proved fatal if the period of coma had been prolonged.

The picrotoxin therapy was carried to the point of generalized convulsions in Case 2. It is of some interest that this "shock therapy" failed to alter the schizophrenia which was present. The dosage of picrotoxin which produced the convulsion has been recorded. In general, we approve of the recommendation by Bleckwenn and Masten[8] of administering 1 mg. per minute, but the intoxication of this patient was so advanced that we gave the drug more rapidly. Because of the preexisting schizophrenia, an evaluation of possible cortical injury by the convulsion is not feasible.

SUICIDAL WARNINGS

Both of these patients gave ample warning of their intention to suicide. Physicians who see patients in depressed moods, whatever the cause, may well be alert to this possibility. Patients who express deep feelings of futility, especially if they are tense, anxious or hostile are easily detected. Those who conceal their depressive content, but who are retarded in speech, action and physiological functions, as well as those who think they are fighting overpowering odds should be questioned regarding their opinions about the value of living, impulses to hurt themselves, etc. The second case was frankly delusional and asked several people including policemen for help because he thought he was being pursued by enemies. Since it is difficult to protect these patients against themselves they

should be placed in a hospital which is competent to deal with them. It should be remembered that one or more unsuccessful attempts at suicide are not prophylactic, and that some patients are eventually successful after vigilance is relaxed because they are thought to be improving.

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TULAREMIA AND ITS TREATMENT WITH SERUM

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Tularemia is caused by Bacterium tularense, a small, non-motile, Gram-negative organism, which exhibits marked pleomorphism in its growth on special culture media. Martin,[1] in 1907, reported the first case of tularemia in man, and attributed this infection to the skinning and dressing of wild rabbits. Since then numerous animals and insects have been found to transmit the disease.

Pearse,[2] in 1910, described nine cases of "deer-fly fever," which followed horse-fly bites. McCoy and Chapin,[3] in 1912, isolated an organism from ground squirrels dying from a "plague-like" disease in Tulare County, California. They called the organism Bacterium tularense. Francis[4] decided that the two conditions were the same, and named the new disease tularemia in 1919.

Parker, et al,[5] found the common wood tick to be a host and transmitter of tularemia. They found the infective agent present in ticks collected from horses, mountain goats, woodchucks, mountain rats, and Columbian ground squirrels. They also noted the presence of the disease in the snowshoe rabbit, the jack rabbit and the coyote.

New animal hosts and insect vectors have continued to be discovered, and tularemia has been found to be transmitted by the domestic cat, the opossum, the fox squirrel, the muskrat, and even by quail. In 1931, Simpson[6] reported wild rats, meadow mice, woodchucks, and sheep as transmitters of the disease, and stated that the horse, cow, domestic chicken and turkey apparently are not susceptible to either natural or experimental infection with Bacterium tularense. Francis,[7] in 1937, stated that ten cases of tularemia had occurred from dressing squirrels, opossums, sage hens, coyotes, deer, red foxes, bull-snakes, muskrats and skunks, and Miller[8] reported the transmission of this disease by the fin prick of a catfish.

The ingestion of insufficiently cooked wild rabbit meat has caused 20 cases of the disease in the United States, of whom 12 have died.

In Russia the principal source of tularemic infection for man is the water rat, 1,000 cases occurring in 1928, in persons who skinned them for their pelts. In 1935, Karpoff and Antonoff[9] reported an epidemic due exclusively to water. Forty-three cases were examined and observed who drank water from a brook which was thought to have been contaminated by water rats. The presence of the micro-organisms in the infected water courses was proved experimentally and bacteriologically.

In 13 laboratories in the United States, England, Japan, and Russia, 41 workers contracted the disease performing necropsies on infected guinea pigs and rabbits or from handling infected living ticks. It is interesting to note that tularemia is transmitted from animal to animal and from animal to man but that there is not a proved case of transmission from man to man.

The geographical distribution of tularemia was summarized in January, 1937, by Francis[7] as follows: Human cases have been found in the

District of Columbia and in all the states in the Union except Vermont and Connecticut. The disease was reported in Japan in 1925, in Russia in 1928, in Norway in 1929, in Canada in 1930, in Sweden in 1931, and in Austria in 1935. Thus, it is evident that what was once considered wholly an American disease has been found to be widely distributed throughout the world.

It has been found that in the majority of cases inoculation occurs as the result of a perforating wound as that produced by a sharp fragment of bone. However, the organism may pass through the unbroken skin. The incubation period varies from one to five days.

The diagnosis of tularemia is suggested by the history of handling wild rabbits or having been bitten by a tick or horse-fly. The diagnosis may be confirmed by the intracutaneous test on the second day, by blood cultures or by the agglutination test. Agglutinins appear during the second week, reaching the maximum of 1:1280 to 1:2560 in four to seven weeks, and persist for life. These agglutinins will occasionally cross-agglutinate Bacterium melitense and Bacterium abortum and have been mistaken for undulant fever by serologists, but the proportionately higher titer reached by tularemia agglutinins leaves little doubt as to the diagnosis. The clinical manifestations are well known. The four distinct types are ulceroglandular, oculoglandular, glandular and typhoidal.

The mortality from tularemia has been reported as low as 1.4 per cent. by Perret,[10] 5 to 7 per cent. by Flinn[11] and as high as 10 per cent. by Baer.[12] Francis[7] reports that the illness lasts about three weeks and is followed by a slow convalescence covering a period of two to three months. He states that most patients recover without any bad after effects, but that about 5 per cent. die.

Foshay[13] introduced serum therapy in 1931 and has used this serum with success in 240 cases. He found that the best results were obtained when the serum was given before the 12th day of the disease. The dose used was 15 cc. of the serum in the vein on two successive days. In cases of septicemia 60 cc. were used. Serum sickness occurred in 42 per cent. of cases who received goat serum and in 63 per cent. of those receiving horse serum.

Since Sharp and Dohme have introduced lyophilized antitularemic serum I have treated two cases, which I think are worthy of reporting.

Patient J. H., Male, 60, gave a history of cleaning 20 rabbits on 11-26-38, and three days later, 11-29-38, there was a sudden onset of chills, fever, generalized body-ache and tired feeling. On 12-1-38 a lesion was noticed on the right middle finger associated with lymphadnopathy of right epitrochlear and axillary glands. The patient ran daily chills and fever ranging between 101 and 104.8. The patient was given 500 cc. of a 25 per cent. glucose solution daily intravenously and antipyretics every four hours. The temperature remained up to 103.5, when on 12-6-38, 15 cc. Lyovac antitularemic serum was given intravenously. Twelve hours later the temperature dropped to 98 and the next day, 12-7-38, the abscess on the right middle finger ruptured. The next day, 12-8-38, 15 cc. Lyovac antitularemic serum was again given intravenously, and four days later, 12-12-38, the patient developed severe serum fever, with a temperature of between 99 and 102, characterized by edema of lips and eyes and generalized urticaria which was treated by adrenalin, calcium therapy and ephedrine. This allergic reaction remained for only one day, although the temperature continued up for six days. On 12-15-38, the patient was given 20 cc. of whole blood intramuscularly into the right buttock. On 12-16-38 the agglutination test for tularemia was positive in a dilution of 1:640. On 12-19-38 20 cc. more blood was given intramuscularly, and on 12-25-38 15 cc. more Lyovac antitularemic serum was given intravenously, and one hour later the patient succumbed.

Patient A. C., female, aged 38, gave a history of cleaning a rabbit on 12-5-38, and six days later, 12-11-38, she had fever, chills, sweats and tired feeling. A lesion was noticed on right ring finger associated with lymphadnopathy of right epitrochlear and axillary glands. She was given 15 grains of sulfanilamide along with antipyretics and alkalis, but she showed a hectic temperature of between 96° and 102.1° until 12-23-38, when 15 cc. Lyovac antitularemic serum was given intravenously. In two days the temperature returned to normal and remained normal. Thereafter the patient complained only of extreme tired feeling but no symptoms of chills or fever. Patient did not exhibit any signs of serum sickness.

DISCUSSION

Although one of these cases died, it is evident that Lyovac antitularemic serum is effective in treating tularemia ,and this new form of serum is convenient to administer.

CONCLUSION

Tularemia is a relatively common disease in this country, and many animals are known to transmit this infection, although it is not transmitted from man to man.

Lyovac antitularemic serum is effective in the treatment of infection by the Bacterium tularense.

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THE TREATMENT OF HEMORRHAGE FROM THE GASTRO-INTESTINAL TRACT

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A discussion of the treatment of hemorrhage from the gastro-intestinal tract falls into two categories depending upon whether the hemorrhage is of such magnitude that symptoms of shock develop in rapid order, or whether the hemorrhage is in itself not severe but rather a sign directing attention to the lesion causing it.

1. Severe gastro-intestinal hemorrhage which in a relatively short time is fatal, does not occur very often but hemorrhage of sufficient magnitude to produce symptoms of shock is not very rare. In the latter instances immediate treatment is concerned with supportive measures. The patient is put to bed as quickly as possible and as near the place of the accident as possible with the minimum of transportation. Long automobile or train rides in order that the patient may reach home or a hospital should be prevented. The patient is advised to lie as quietly as possible; according to some nothing is permitted by mouth for at least 24 to 48 hours, others permit limited bland feedings with or without alkalis; sedation by means of morphine is prescribed and constant attendance, preferably by at least a nurse is of utmost importance. Application of ice bags to the upper abdomen in cases of hematemesis or to certain regions of the colon in severe melena is a time honored procedure but is of questionable value. If it appears desirable to favor more rapid clotting of the blood, an intramuscular injection of 10 cc. of 10 to 20 per cent. calcium gluconate may be given every four hours for two to four injections.

When possible frequent blood pressure readings should be recorded as these, together with the pulse rate, afford accurate means of gauging the severity of the shock due to loss of blood, and continued drop in blood pressure with increasing pulse rate may be an indication of further hemorrhage before it becomes manifest as hematemesis or melena. Blood counts at the time of such hemorrhages give little information.

The question of parenteral fluids depends upon the general condition of the patient and the arrest or continuance of the hemorrhage after the measures outlined have been instituted. Obviously, rapid intravenous injections of fluids or blood are contraindicated as these would raise the blood pressure which in turn favors renewal of the hemorrhage.

Hypoclysis of Ringer's solution or isotonic saline may be started shortly after the patient is put to bed and administered slowly so that 1½ to 2 hours are required for the injection of 1,500 cc. This may be repeated in eight or ten hours. If there is evidence of continued hemorrhage, blood transfusions are indicated and should be administered in amounts of 100 to 200 cc. at intervals of one to two hours rather than the entire transfusion (600 to 700 cc.) in a relatively short period. On the other hand continued severe bleeding may require more rapid replacement of blood and fluids. The general condition of the patient serves as the best guide to the manner of administering parenteral fluids, the underlying principle for the management being that a certain degree of shock is to be expected and accepted, and the remedial measures employed are to be so chosen and timed so that over-enthusiastic treatment does not defeat its own objectives.

The common cause of severe hematemesis is *peptic ulcer*. Immediate operation for excision or exclusion of the bleeding lesion is not generally advised because experience has shown that under conservative management the ultimate recovery from any given severe hemorrhage occurs

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in the great majority of cases where the severe bleeding is the first or second accident. Upon recovery from such accidents medical management for peptic ulcer is instituted.

Where there is a history of repeated attacks of severe hemorrhages which have occurred while the patient was under medical management, immediate operation is considered when response to conservative measures is not prompt. Adequate blood transfusion immediately precedes laparotomy which should be done under local anesthesia whenever possible. Because of the previous medical management there is some definite preoperative conception as to the location of the ulcer and excision is the treatment of choice, with or without gastro-enterostomy. Large chronic ulcers near the pylorus usually call for pylorectomy followed by a Billroth or Polya type of gastro-intestinal anastomosis. Peptic ulcers with histories as just outlined above usually exhibit patent sclerotic arteries in their craters. Repeated hemorrhage from stoma ulcer is indication for resection of the anastomosis, with or without its reconstitution.

Esophageal varices. Sudden hematemesis may be due to esophageal varices which in turn are the result of interference with the venous portal drainage. The common causes of such varices is cirrhosis of the liver of various types. The quantity of hematemesis may be sufficient to result in shock in which case the immediate treatment is as outlined above. Repeated attacks of severe hematemesis from esophageal varices may occur at irregular intervals and may eventually prove fatal.

In elderly debilitated patients with advanced cirrhosis the treatment is essentially symptomatic including blood transfusion when necessary. In patients whose condition is at least fair, or in younger patients with so-called Banti's disease, attempts at obliteration of the esophageal varices is indicated as a palliative measure. Various procedures have been recommended for this including laparotomy for the injection of the varices by sclerosing solutions, or splenectomy accompanied by removal of the gastric brevia venous branches that drain into the splenic vein, and ligation of the left gastric veins.

2. When the hemorrhage has not been of sufficient magnitude to cause general signs and symptoms of shock, and therefore does not of itself present an emergency problem of major importance, treatment is directed to the lesions causing it.

In such cases blood studies are made to determine the degree of anemia, since slight bleeding over prolonged periods often results in a marked depletion of red blood cells and hemoglobin. When surgical intervention is to be performed, preliminary blood transfusion is indicated for such anemia and preparations for post operative transfusion are also made.

Carcinoma of the stomach. Severe hemorrhage is not often due to carcinoma of the stomach, but continued loss of small amounts of blood in the stool is the rule; small to moderate hematemesis may occur. The treatment, of course, is resection according to the standard operative procedures when possible, after suitable preparation.

Papillomas of the stomach. Benign papillomas of the stomach are not frequently diagnosed clinically. They often are the seat of repeated hemorrhages which, however, are not severe at any one time but because of continued loss of blood may be the cause of moderate or profound anemia. In elderly patients such lesions not very rarely occur concomitantly with pernicious anemia. Gastrotomy and excision of the tumor is indicated. This procedure is relatively simple because they are usually attached by a narrow pedicle. In rare instances a papilloma situated in or near the pyloric orifice passes forward into the first portion of the duodenum; limited pylorectomy may be performed in these cases.

Carcinoma of the small bowel. While obstructive symptoms may in some instances be the first evidence of such neoplasms, a marked secondary anemia may be the principal finding before there is evidence of obstruction, due to continued small hemorrhages which might only be appreciated upon examination of the stool for occult blood. Marked secondary anemia, the continued presence of occult blood, and failure to observe a lesion in the stomach or colon by fluoroscopy and proctoscopy justifies, in the writer's opinion, an exploratory laparotomy with the diagnosis of small bowel neoplasm.

Carcinoma of the colon. Varying degrees of secondary anemia occur with carcinoma of the colon. These are due to continued loss of small quantities of blood over prolonged periods. The blood is passed with the feces or there may be stools composed for the most part of mucus and

blood. In some instances, especially with carcinoma of the cecum or ascending colon there may be a very severe degree of anemia without the patient giving a history of much loss of blood with the stool. Such cases have raised the question of whether some types of colon carcinoma elaborate a factor which markedly inhibits hematopoesis.

Although not very frequently encountered, some carcinomas of the colon may be the cause of sudden hemorrhage which is of sufficient magnitude to produce shock and thus call for emergency treatment for the loss of blood. The magnitude of the hemorrhage does not always parallel the size of the neoplasm, as small carcinomas may give rise to severe hemorrhage as a first sign and patients with large tumors may not be aware of passing blood per rectum.

The treatment of carcinoma of the colon is excision according to the standard procedures depending upon the location of the growth.

Papilloma and papillomatosis of the colon (and other benign tumors). Single or multiple papillomas of the colon (or other pedunculated benign tumors) may be the cause of sudden severe hemorrhage or continued loss of small quantities of blood over prolonged periods. Diagnosis is possible by fluoroscopy if the lesions are in the sigmoid or higher and if they are sufficiently large to produce filling defects. The lesions may be visualized through the proctoscope if they are low enough in the rectal colon. In the latter instance they are excised or destroyed by fulguration in one or more stages. When situated higher in the colon laparotomy for excision is indicated. Fulguration by means of a proctoscope through an incision in the colon may be possible. A single large papilloma may be removed by colotomy. Segments of colon exhibiting several bleeding papillomas are best resected, not only in order to arrest hemorrhage but also because such lesions constitute a precancerous condition.

Hemorrhoids and anal fissure. Proper treatment of hemorrhoids or anal fissures will of course put an end to the small hemorrhages which commonly result from them. On the other hand, it is good practice not to be satisfied that all the loss of blood that the patients complain of is due to such conditions and a proctoscopic examination prior to or at the time of operation should be routinely performed especially in middle aged or elderly patients. If this is done in any large series of cases unsuspected papillomas and even carcinomas of the rectal colon will be occasionally discovered.

Hemorrhage from the alimentary canal may occur in a variety of non-surgical diseases, such as the leukemias and purpura hemorrhagica. Treatment is directed to the underlying conditions. Severe intestinal hemorrhages in acute leukemias is a bad prognostic sign and may be treated by transfusion. In selected cases of chronic purpura hemorrhagica splenectomy results in arrest of the general hemorrhagic tendencies. The bloody diarrheas of ulcerative colitis may produce severe anemia and this is treated by blood transfusion. Ileostomy, in an attempt to alleviate symptoms, including bleeding from the colon, may in some cases be considered.

PATHOLOGY AND TREATMENT OF OTITIC AND RHINOGENIC MENINGITIS

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During recent years numerous cases of otitic and rhinogenic meningitis have been published as cured through the administration of sulfanilamide and its derivatives. No ten-year period in the past showed as many recoveries from meningitis as occurred in one recent year. There is no doubt that the improvement in the treatment of this disease represents a great advance in medicine. This is particularly interesting when one recalls that forty years ago there was much discussion as to the advisability of surgery in meningitis.

Considering this progress more critically, two questions arise. Is it due entirely to the administration of sulfanilamide? Can the entire problem of otitic and rhinogenic meningitis be looked upon as solved? It is not easy to answer these questions. A review of the recent literature reveals that the cases which have recovered have been extensively published, but those who died in spite of modern treatment are not reported—at least not so extensively reported. It has been repeatedly indicated that since the advent of sul-

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fanilamide, the mortality rate has fallen from nearly 100 per cent. to a point between 20 per cent. and 45 per cent. (McCaskey). The significance of these numbers is questionable, however, as the course of the disease varies with the pathway of infection from the ear or nose to the meninges. This has been pointed out by Eagleton and others.

To answer the questions stated above, seventy cases of meningitis treated with sulfanilamide have been collected, chiefly from the American literature. In each case there was cloudy cerebrospinal fluid with cells, mostly polymorphonuclear leucocytes, varying from 540 to 17,000. In all cases the spinal fluid was positive for organisms in both smear and culture. Fifty-seven cases showed hemolytic streptococci, and ten cases showed pneumococci, type III predominating.

The majority of authors consider cloudy fluid containing organisms as significant for a generalized meningitis. However, it should be pointed out that there are many cases of generalized otitic and rhinogenic meningitis in which these changes are not found. Cases have been seen in which no bacteria could be found in the cerebrospinal fluid up to the death of the patient, and cases in which there were organisms, but not a marked increase in cells. In spite of these findings meningitis was discovered at autopsy. However, it is certain that in the majority of cases the fluid is cloudy, and organisms are present.

Cases of primary meningitis only have been considered. By this we mean cases in which the meningitis originated from a suppuration within the temporal bone. Cases of secondary meningitis, following an intracranial complication such as sinus thrombosis or brain abscess, have not been considered, because the pathology is different from that in the primary form.

Only cases in which the generalized meningitis was ushered in by a pachymeningitis externa have been used in our statistics, although these cases in reality belong to the class of secondary meningitis.

The seventy cases of otitic and rhinogenic meningitis treated with sulfanilamide can be separated into six groups.

The largest group, fifty-one cases, are those beginning with acute otitis, followed by mastoiditis and meningitis. Most of these patients were young, between one and 25 years of age. Applebaum reported one case 43 years old, and Causse, Loiseau and Gieselbrecht had one 46 years old. Both cases had acute otitis, meningitis and hemolytic streptococci in the spinal fluid. Both were treated with sulfanilamide or prontosil and neither was operated upon. In spite of this the patients recovered. If they really suffered from otitic meningitis, which seems doubtful, they are contrary to the usual experience.

In a group of eight cases meningitis followed simple mastoidectomy. These were young patients from four to 14 years of age. The meningeal symptoms appeared three days to two years after the operation.

There were five cases of meningitis following chronic otitis, with or without cholesteatoma. The ages were eight to 15 years. Besides the administration of sulfanilamide, a simple mastoidectomy was performed.

Two cases of meningitis followed recurrent otitis. Labyrinthitis preceded meningitis in two cases. There were two cases of rhinogenic origin.

In order to obtain an accurate estimate of the efficiency of sulfanilamide, 64 cases of otitic and rhinogenic meningitis were collected, which were not treated with sulfanilamide or its derivatives. All cases had cloudy cerebrospinal fluid, with cells up to 20,000. Hemolytic streptococci were present in 41 cases and pneumococci in 41 cases. The treatment followed with a great variety of methods, including incisions of the dura, blood transfusions, anti-streptococcus serum, solganal, zylotropin, urotropin, staphylococcus vaccine, trypaflavin, vuzin, intraspinal injections of hypotonic sodium chloride, autogenous serum, colloidal silver, mercurochrome, anti-meningococcus serum, acriflavin, intracarotid injection of Pregl's solution and forced drainage of the spinal canal.

These 64 cases can likewise be separated into distinct groups. The largest number, 37 cases, began with acute otitis and mastoiditis. The great majority of patients were young, two to 25 years of age. Dan McKenzie in 1915 reported one case in a 50-year old patient and Cadham had one 34 years of age. Both cases had streptococci in the spinal fluid, and followed acute otitis. In one, dural drainage was performed, while in the other anti-streptococcus serum was administered. No mastoid operation was per-

formed, so that again the question arises as to whether these cases were otitic meningitis.

The next group, six cases, acquired meningitis following simple mastoidectomy. Meningeal symptoms appeared four to eight days postoperatively. The age incidence was eight to 15 years. Only one case was older, 28 years.

In seven cases, meningitis followed chronic otitis, with or without cholesteatoma. Five were young, one was 34, and one was 35. There were no cases following recurrent otitis. Seven followed labyrinthitis. Six were of rhinogenic origin and one followed a rhinopharyngitis.

Considering this great number of cases, the following conclusions can be drawn:

1. Of all forms of otitic and rhinogenic meningitis cured those following acute otitis are most common (66 per cent). In the following discussion we must therefore deal particularly with these cases.

2. A definite relation of prognosis to age is found. The greatest number of cured cases, regardless of treatment, were from six to ten years of age. This finding agrees with that of Neumann, who reported 59 cases of meningitis following acute otitis. Twenty-two patients (37 per cent.) recovered, but only one of these was older than 15 years. It must be admitted that Neumann's cases differ from ours in that only six of his 22 cases had bacteria in the spinal fluid, while all of our 88 cases showed organisms.

3. The comparison between the cases treated with and without sulfanilamide, at first, would lead one to believe that there is no difference between those treated with, and those treated without sulfanilamide. This, however, would be wrong. If one considers that our sulfanilamide cases were published in a period of two years, while the cases recovered without the drug were treated over a period of 39 years, it is evident that the advent of sulfanilamide has definitely increased the chance of recovery from a general purulent meningitis.

In answering the question as to whether or not the improvement in prognosis is entirely due to sulfanilamide, it may now be concluded that sulfanilamide while not the sole factor in recovery, has definitely improved the prognosis of this disease.

It is not fair to exaggerate the efficiency of sulfanilamide, particularly to the point of considering mastoid surgery as unnecessary. On the contrary, the advice Jansen gave many decades ago, namely, that the first symptom of meningitis is the last summons to operate, may be held valid today. This point must be emphasized, because among our sulfanilamide cases there are 13 instances which have been reported as recovered from an otitic meningitis, without an operation on the mastoid. Among these were two cases over 40 years of age, and five between one and five years. Since our statistics show that the prognosis of meningitis in these periods of life is not good even after mastoidectomy, one becomes suspicious that some did not suffer from otitic meningitis.

Our present modus procedendi in cases of otitic meningitis is as follows: In acute cases we perform a simple mastoidectomy, and in chronic cases a radical mastoidectomy, widely exposing the dura in both instances. To prevent adhesions within the leptomeninges we withdrew about 30 cc. of cerebrospinal fluid, and compensate with an injection of 20 to 25 cc. of air. In order to combat the infection, we administer 1 cc. of prontosil for each pound of body weight during the first 24 hours, 0.5 recommended by Long and Bliss. If sulfanilamide is used, ¾ grain per pound body weight is given in the first 24 hours. The dose is greatly reduced after this, when the maximum blood concentration has been obtained. To combat and prevent general debility, blood transfusions are given.

There is no question that this type of treatment is capable of markedly increasing the number of recoveries from otitic meningitis. However, the question arises as to whether this has completely solved the problem of this disease. Unfortunately, it has not. Since the prognosis is dependent on so many factors, it cannot be expected that the advent of a new drug can solve the entire problem.

In order to point the way for further investigation, we wish to enumerate the chief factors which influence the prognosis of otitic and rhinogenic meningitis.

1. The general physical condition of the patient, which is in turn dependent on the patient's age. We must admit that the prognosis in elderly patients is gloomy, especially when the cardiovascular system is diseased. This is proved by statistics published by Hewell and Mitchell. They report 28 cases of pneumococcic meningitis, cured by use of sulfanilamide. Among these 28 cases

only five (18 per cent.) were older than 25 years, but in none was there an otitic meningitis. They also report eight cases who died in spite of sulfanilamide. Among these eight, three cases (37 per cent.) were older than 25 years.

2. The strain and virulence of the bacteria. It is an old experience that infection with pneumococci, especially type III, is more dangerous than infection with streptococci. There have, however, been a great number of instances reported as recovered from pneumococcus meningitis by the administration of sulfanilamide. It must be admitted that in a certain number of these recovered cases the virulence of the bacteria was low, as shown by the fact that the organisms appeared on the smear, but not in the culture or were found only once on culture.

3. The intensity of the encephalitis. Microscopic examinations have shown that every meningitis is accompanied by pathological changes within the cerebral cortex. These changes may be very slight, appearing only as glial reaction; or they may be very marked, so that a true encephalitis is found. There is no doubt that the more marked the encephalitis, the worse the prognosis. As the encephalitis is the cause of a great number of the well-known symptoms of meningitis, we can follow Neumann's distinction between cases of meningitis with but few clinical symptoms, and those with an abundance of symptoms. In the latter case, the prognosis becomes worse. Among these clinical symptoms Neumann places great stress on the presence or absence of the Babinsky sign.

4. The time of operating. As pointed out before, the operation must be performed as early as possible, therefore an early diagnosis of meningitis is important. This is sometimes difficult to make, particularly in cases with few clinical symptoms. In such cases, only a spinal puncture can guide one to the diagnosis. It should, therefore, be performed in every otologic and rhinologic case which is suspicious for meningeal involvement. Furthermore, a thorough chemical and bacteriological study of the spinal fluid should be made, as advised by Kopetzky. In interpreting the results, it should not be forgotten that an increase of cells in the spinal fluid may be found in acute otitis and mastoiditis in children and young persons (H. Bjoerk). This is particularly true in acute otitis following scarlet fever, and indicates meningeal involvement, but not a true otitic meningitis.

5. Pathway of the infection. Every textbook minutely describes these pathways, but does not place emphasis on the question as to whether or not the infection invades the meninges by one pathway only, or by several pathways simultaneously. I briefly term the former type of infection "the single invasion of the meninges," and the latter, "the multiple invasion of the meninges." As an example of multiple invasion the following cases may be cited.

Case I. A woman, 50 years old. On February 1, 1929, she noticed an earache on the right side. She ran a temperature of 100, and gave the impression of a very ill patient. On February 2nd a paracentesis was performed, which procedure was followed by syncope. On February 4th a completely developed meningitis was diagnosed. The cerebrospinal fluid was cloudy and contained hemolytic streptococci. The operative findings were an almost normal mastoid process, a necrosis of the tegmen of the mastoid process, and a circumscribed necrosis of the dura. The patient died the next day, and autopsy revealed meningitis and cor adiposum.

Microscopic examination of the temporal bones revealed an inflammation of the skin of the external canal, and an acute otitis with a very acute mastoiditis. The infection had travelled from the middle-ear into the meninges along congenital dehiscences in the tegmen typmani, and along the blood vessels perforating the tegmen tympani.

Case II. A man, 30 years old. On June 8, 1935, he complained of headache and nasal obstruction. The right half of the nose was filled with polys, with pus between the polyps. He ran a temperature of 100. On June 9th the polyps were removed. After the operation he vomited, and ran a temperature of 102.2. On June 10th the temperature rose to 103.6. Next day it was 103.8, and he vomited again. The right eye protruded, but no meningeal symptoms were found X-ray examination revealed cloudiness of all paranasal sinuses on the right side. The spinal fluid was normal. The right frontal, ethmoid, and sphenoid sinuses were opened, and all were filled with pus and discolored granulations. On June 12th, he complained of occipital headache, and a marked leukocytosis of the blood was found. On June 14th the cerebrospinal fluid was cloudy, but no organisms were found. The fluid which was removed was replaced by air. The dura of the anterior fossa was widely exposed. On June 16th exitus occurred. Autopsy revealed a meningitis which had affected the base of the brain, and the convexity of the *left* frontal lobe.

Microscopic examination of the nose showed that the infection had travelled from the nose into the meninges along the sheaths of the olfactory bundles on both sides, thus infecting the meninges on the left, on which side no nasal polyps had been found.

It is evident that in both cases the infection traveled simultaneously along many pathways into the meninges. We meet essentially the same conditions if the infection invades the meninges along the blood vessels perforating the posterior wall of the frontal sinus, or the roof the sphenoid, or the posterior surface of the pyramid. Finally, we meet the same conditions, if many pneumatic cells perforate into the meninges simultaneously, as sometimes happens in mucosus otitis.

In all these cases the meninges are simultaneously infected from many sources so that the meningitis very quickly is generalized without having been circumscribed, or having been circumscribed for only a very short period. This pathologic condition holds true particularly if the meningitis originates in the anterior or middle fossa of the skull. Alexander, as early as 1908, pointed out that a meningitis originating in the posterior fossa has a definite tendency to stay circumscribed in the posterior fossa for a long period, while a meningitis originating in the middle fossa very quickly travels into the posterior fossa.

This multiple invasion of the dura we most frequently find in acute otitic meningitis, and in rhinogenic meningitis where the infection travels along the sheaths of the olfactory bundles. Of course one must keep in mind that these are not hard and fast rules. Not every infection passing the cribriform plate travels along the sheaths of the olfactory bundles; there are also cases with a circumscribed necrosis of the cribriform plate; and not every meningitis following an acute otitis develops by way of a thrombosis of the perforating blood vessels.

Case III. A man, 63 years old. On December 30, 1928, he noticed an earache and diminution of hearing on the right side. A paracentesis was performed. The otitis improved, while in that stage he acquired the grippe. The otitis flared up and produced daily temperatures of 104. He recovered from the grippe, but the fever did not disappear, and the secretion from the ear grew worse. On January 31, 1929, a simple mastoidectomy was performed. No bacteria were found in the cerebrospinal fluid. After the operation the fever did not subside. On February 9th, a pus-filled pneumatic cell in the petrosal angle was opened. The dura and the sinus were normal. No bacteria were in the cerebrospinal fluid. After the second operation a septic meningitis developed and the patient died on February 19th.

The microscopic examination of the temporal bones revaled a chronic adhesive process of the right middle-ear, and an abscess within the ganglion Gasseri, resulting from a petrositis (without clinical symptoms), and a primary thrombosis of the jugular bulb.

In this case the meningitis did not develop by way of the perforating blood vessels, but via a thrombosis of the jugular bulb, which latter was caused by an infection travelling along the blood vessels which perforate the floor of the middle-ear.

We meet quite different conditions in cases of single invasion of the meninges. In such cases most often chronic infection can be found within the middle-ear or the frontal sinus or the ethmoid. This chronic infection slowly destroys the tegmen tympani, or the posterior wall of the frontal sinus, or the roof of the ethmoid. If in this stage the case is operated upon and the dura widely exposed, recovery as a rule takes place. If no operation is performed, the infection penetrates into the depths, producing a pachymeningitis externa. In this stage also, recovery is possible with wide exposure of the pachymeningitis. If still no operation is performed, the infection penetrates through the dura, producing a circumscribed leptomeningitis. In this stage also, exposure of the pachymeningitis may lead to recovery, particularly if the patient is young, and the circumscribed meningitis is localized in the posterior fossa. In older persons and in circumscribed meningitis within the middle fossa the operation may be dangerous; changing the circumscribed leptomeningitis into a generalized stage, of course, may happen very rapidly. These cases, therefore, have to be operated upon in the stage of circumscribed meningitis, inasmuch as that stage lasts long enough to be recognized. The following cases may exemplify the described pathology.

Case IV. A boy, 19 years old. When he was six years old he acquired a bilateral otitis after measles. Despite treatment the acuity of hearing diminished on the left side. In September 1932, he caught cold and from then on the headache from which he suffered became worse and was localized in the left occiput. He complained of nausea, somnolence and inhibition of speech. No discharge from the left ear was noticed, but his hearing grew rapidly worse.

On January 4, 1933, a large perforation in the posterior superior quadrant of the left ear drum was found, with fetid discharge, and scales of cholesteatoma. There was an edema at the tip of the left mastoid and percussion over the left temporal squame elicited some dullness. He heard accentuated whipered voice on the left side at 15 cm. The Weber was not lateralized. The Schwabach was prolonged on the left side. The Rinne was negative, and high tones were markedly diminished. There was a nystagmus of first degree to both sides; more marked to the right than to the left.

The caloric test revealed a normally active labyrinth. The neurological examination revealed no pathological findings except a paresis of the facial nerve on the right side. There was no choked disc and the Wassermann was negative. In the cerebrospinal fluid Pandy's test was positive. The x-ray examination showed a sclerosed mastoid. The antrum on the right side was wide and on the left side narrow, hazy, without sharp margins. A lumbar encephalography was performed, without revealing any pathological changes. On operation (January 17th) an eburnated mastoid was found with a narrow, deeply situated antrum. Within the antrum and the attic greasy masses of cholesteatoma were found. The tegmen tympani was necrotic. The dura was widely exposed, being definitely reddened and bulging. During the following night the patient was restless and screamed. On the next day his temperature was 102.7, his pulse rate 150. He complained of severe occipital pains. There was a positive Kernig and Babinsky on the left side, and the leucocyte count was 20,200 with 72 per cent. polymorphonuclear cells, 25 per cent. juvenile forms, one per cent. lymphocytes and two per cent. monocytes. There was no choked disc. One hour later he was drowsy, all reflexes were increased, and there was definite rigidity of the neck. One hour later the patient was unconscious. In the cloudy cerebrospinal fluid hemolytic streptococci were found. A few hours later the patient died.

At autopsy a severe purulent pachymeningitis externa in the left middle fossa and a purulent leptomeningitis at the base and convexity of the brain were found.

Case V. A man, 41 years old who suffered from bilateral otitis since childhood. After catching cold, he felt pain in the right half of his face and his temperature rose to 104 with chills.

On January 10, 1930, fetid pus and a big polyp was found in the right external canal. There was also a right mastoiditis. Since the patient was very drowsy a cochlear test could not be performed. The labyrinth however, was normal.

There was a fully developed meningitis with 3,600 cells, but no bacteria in the cerebrospinal fluid.

At operation: cholesteatoma was found in the antrum and attic, a fistula 4 mm. in diameter in the tegmen, and a pachymeningitis externa. A few hours after the operation the patient died.

At autopsy a generalized meningitis was found. The microscopic examination of the temporal bones revealed on the right side an acute exacerbation of a chronic otitis with deep erosions of the promontory, erosion of the bony canal of the facial, and multiple perforations of the tegmen tympani leading into a large extradural abscess.

In the last two cases we had to deal with an acute exacerbation of a chronic otitis media with cholesteatoma which had broken through the tegmen tympani into the middle fossa. In both cases a wide pachymeningitis externa in the middle fossa followed the penetration of the suppuration through the tegmen tympani, and persisted for a certain period of time. In both cases recovery undoubtedly could have been attained by performing the operation in the early stage of the disease. Unfortunately in both cases the operation was performed when the circumscribed stage of the meningeal involvement changed or was about to change, into a generalized meningitis.

Other kinds of meningitis which often begin with a circumscribed stage of a certain duration are the meningitis following an inflammation of the frontal sinus or of the ethmoid, the meningitis following a labyrinthitis as Alexander pointed out, and occasionally the meningitis following a simple mastoid operation. However, it must be re-emphasized that all these statements are just clinical rules, not laws. Exceptions to these rules, therefore, are met from time to time. Such an exception might be described in the following case.

Case VI. A woman, 51 years old, who ten years before had an accident following which she noticed a gradual impairment of hearing and an occasional discharge from the right ear. On May 24, 1932, we found a perforation in the posterior superior and posterior inferior quadrant of the right drum. The malleus was present, and there was a small amount of discharge with a slightly fetid odor. She did not hear whispered voice and heard conversational voice ad concham. She was kept in the hospital for observation of her gallbladder. On June 7th, her temperature suddenly rose to 102.3, she had a profuse discharge from the right ear and pain in the right temple. There was a definite mastoiditis on the right side, but no meningeal symptoms, no vomiting and no chills. At operation pus was found in the mastoid process and in the antrum. The tegmen tympani was necrotic and the adjacent dura had a black color. After the operation the patient developed a meningitis and on June 8th the cerebrospinal fluid was cloudy and contained hemolytic streptococci. The dura was incised and a large subdural abscess was evacuated. The patient died on June 10th.

The miscroscopic examination of the temporal bones revealed a chronic otitis without cholesteatoma on the right side, and an otosclerosis on both sides. The suppuration had perforated the tegmen tympani through congenital dehiscences. Furthermore, we found on the floor of the middle fossa lateral to the eustachian tube hernias of the brain invading the bone of the floor of the middle fossa. These hernias became inflamed from the suppuration in the temporal bone and were probably the pathway for the fulminating leptomeningitis in this case.

Summarizing, we might say that it is impossible to speak about the prognosis and treatment of otitic and rhinogenic meningitis in general, since there are different kinds of otitic and rhinogenic meningitis which differ considerably in prognosis and treatment. We can distinguish between the cases of meningitis which have per se a better prognosis, and those which have from the onset a bad prognosis. To the first group of cases belong all kinds of meningitis which are ushered in by a stage of circumscribed meningeal involvement provided that they are operated on during that circumscribed stage. The otitic meningitis of this sort includes particularly the cases of cholesteatoma of the middle-ear, the so-called "mucosus otitis" (pneumococcus III) and the cases of labyrinthitis. As far as rhinogenic meningitis is concerned the meningitis originating in the lateral group of the paranasal sinuses (as Eagleton calls it) has to be mentioned, namely the cases of meningitis which begin in the frontal sinus or the ethmoid. In such cases everything depends on a timely operation. Age of the patient, virulence of the bacteria and administration of antiseptic drugs are of less importance.

On the other hand, the cases with multiple invasion of the meninges usually have a bad prognosis. In this group we find the cases of acute otitis, and those with infection of the olfactory bundles (mesial group according to Eagleton). Since in these cases a circumscribed stage practically does not exist, all depends on the age of the patient, the virulence of the bacteria and the degree of infection of the brain. The statistics show that within this group young persons have a better prognosis than older persons, and that sulfanilamide has considerably improved the prognosis.

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DISCUSSION

Dr. Joseph C. Beck, Chicago: I think it is a very good thing that you have limited the time on papers because I could go on talking about this man and this subject indefinitely. I think we are very fortunate in this country, particularly in Chicago, to have this learned man with us. There is not time to enter into a full discussion of any part of meningitis. He called attention to a number of cases that have been mentioned as cured long ago. I might recall one such case in this town—a butcher boy on whom I operated secondarily to a mastoid. I did a labyrinth operation and there was performed spinal drainage of the pyogenic fluid for several days. That boy was shown here several years later as cured. These were rare cases then. Dr. Brunner brought us a large number of cases that have recovered from the use of sulphanilimide and yet he gives us warning not to be too enthusiastic, forgetting the pathology which was so beautifully shown in his slides. The study of the pathologic details is most important. I am sure I voice the sentiments of everyone when I say this was a rare treat and well worth coming to hear.

IMMUNIZATIONS

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Immunization: the act of rendering immune. We deal with three classes of immunity. We have an active immunity conveyed by recovery from an infectious disease or introduction of a vaccine; natural, which is one peculiar to a species; passive, that conveyed by the introduction of antitoxins; or that obtained from the mother at birth. I shall endeavor in this paper to discuss briefly in the allotted time some of the antitoxins or vaccines that have to do with immunity, namely: typhoid fever, diphtheria, whooping cough, scarlet fever and smallpox, with a report of some research work done and with emphasis of fifteen years of clinical experience.

TYPHOID FEVER

In typhoid fever in the past statistics will show that about one in 300 would be afflicted with this disease. However, I feel that safe milk, safe water supply and safe sewer disposal has probably had as much, if not more, to do with the control of typhoid fever than immunization. At best immunization is only a temporary measure. I find in searching the literature

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that experiments were begun with immunization in 1896. It was put on a voluntary basis in the Army in 1909 and made compulsory in 1911. The lack of success in early innoculations was probably due to the overheating of the bacilli. The method of choice of innoculation against typhoid fever is to give one-half cc. of typhoid vaccine which contains 500,000,000 typhoid bacilli. This is usually given at weekly intervals, the second dose of one cc. which contains one billion typhoid bacilli, and the third dose which also contains one billion bacilli. You usually get your immunity in about one week after the third dose. This immunity seems to last from two to four years. The Army repeats this vaccine at the end of three years. I have had experience in three major floods and we gave this vaccine at five-day intervals rather than weekly intervals. Typhoid vaccine seems to be effective if the doses are repeated as soon as the reaction is gone, and it can be given up to intervals of three weeks or even longer if necessary. It has been the practice of some health departments to give a series of typhoid innoculations, and the following year give one cc. which they thought would extend the immunity three years longer. The Army Medical School has made some recent investigations and they find that rather than give one cc. in the revaccination that one-tenth cc. of typhoid vaccine is just as effective. They have given revaccinations up to as long as ten years since the first vaccination and in some instances it is effective. They don't know how long this revaccination is effective as the experiments have only been done recently. However, it looks as if by giving the complete series of typhoid immunization, and at the end of three years on the revaccination the one-tenth cc., it is just as effective and the reactions are almost nil. We find that where an individual has been given previous innoculations that the revaccination seems to cause the reactions to be greater. I personally haven't had occasion to test out this one-tenth cc. in revaccinations. This was presented by Lt. Col. G. C. Dunham before the Laboratory Section of the American Public Health Association in Kansas City, Missouri, October 26, 1938.

DIPHTHERIA

In diphtheria we have therapeutic and prophylactic antitoxin, toxin-antitoxin, diphtheria toxoid, alum precipitate toxoid and Schick test. It is so easy for the laity to get mixed up on this immunity. They are under the impression that having diphtheria renders one immune. My experience has been that about 50 per cent. of individuals having had diphtheria are rendered immune, and of the remaining 50 per cent. I find that a good percentage of those are more susceptible to subsequent attacks than others. I find that prophylactic diphtheria antitoxin would not in some cases render the contacts immune for the duration of the disease. With toxin antitoxin given in one cc. doses at weekly intervals for three doses, it would render about 75 per cent. immune from diphtheria. Godfrey has shown that by the innoculation of 50 per cent of school children and 33⅓ per cent. pre-school children we could control diphtheria from a public health standpoint, but we would have sporadic cases. The disadvantage of toxin-antitoxin is the serum sickness that one may get from subsequent horse serums. I have given a vast amount of toxin antitoxin, both the horse and the goat serum, and find that the goat serum is more prone to local reactions. I also found that the horse serum toxin antitoxin we have given subcutaneously was just as effective as a Schick test or Schick solution. If the individual were immune one would get no local reaction, but if the individual were susceptible to diphtheria one would get a local reaction not unlike a positive Schick test. In diphtheria toxoid in the older children the reactions in some instances are rather severe. The immunity from two-dose toxoid, of which we gave one cc. doses at intervals of three to four weeks, was found about the same as toxin antitoxin. With alum precipitate the advantages are that your immunities are quicker and higher than other methods. I find you will get an immunity from alum precipitate in three weeks after the first dose in approximately 70 per cent. of the cases. After three months your immunity will run over 90 per cent. and in 15 to 20 per cent. of these cases your immunity will wear out after two years. In giving two-dose alum precipitate at intervals of three weeks I find you get an immunity in over 90 per cent. of the cases which seems to be lasting. I have noticed very little reaction from alum precipitate in children under ten years of age. I always shake the solution thoroughly before giving the innoculation. I think the method of

choice for immunization against diphtheria is two doses of alum precipitate toxoid. The Schick test that is given intradermally, I usually give six months after the toxoid and repeat it in two years. I do not use a control and I read the Schicks in a week. If it is positive you usually get some desquamation and discoloration.

WHOOPING COUGH

The literature on immunization against whooping cough seems to be confusing. Some authorities recommend the vaccine both as a preventative and as a therapeutic measure, and others say the vaccine is no good. I have used the stock vaccine in a good many cases and have received fairly good results. Some time ago at an Orphan's Home in West Virginia that had some forty children, I couldn't get a history of any child that had attacks of whooping cough. A child was admitted with whooping cough and I immediately began immunizing the forty children. We only had two out of the forty develop whooping cough and those cases were very light. During my service with the Michigan State Health Department I had occasion to watch the result of some research work done by Kendrick and Eldering at Grand Rapids. They had under observation 4,212 children of which they injected 1,815 and used 2,397 as a control group. The person-years of both groups was 4,575. The person-years of those injected was 2,268, and of the control group was 2,307. The number of attacks in both groups was 400. The number of attacks in the injected group was 52. The number of attacks in the control group was 348. The whooping cough incidence based on person-years was 8.7 in both groups, and in the injected group was 2.3 and the control group 15.1. The difference in the injected group of 2.3 and the non-injected group of 15.1 is 12.8. The severity rating of both groups: number of attacks 400, very light 35, light 95, moderate 218, severe 41. The percentage of both groups: very light 8.8, the light 23.8, the moderate 54.5, severe 11.5 and rating unknown 1.2. In the injected group of the 52 cases: very light 21, light 17, moderate 12, severe 2. The percentage very light would be 40, and the light 32.7, moderate 23.1, severe 3.8. The control group of the 348 cases: 14 very light, 78 light, 206 moderate and 35 severe, rating unknown 5. The control group percentage is very light 4, light 22.4, moderate 59.2, severe 12.9 and rating unknown 1.4. The very light non-whooping abortive attacks constituted 40 per cent. in the injected group compared with four per cent. in the control group. The types of exposure, all known of the injected group, was 297, attacks 38, per cent. 12.8. In the control group there were 273 with 187 attacks with a percentage of 68.5. The percentage of attacks in the control group is much higher than the injected group with 12.8. In the control group there were 273 with 187 attacks with a percentage of 68.5. The percentage of attacks in the control group is much higher than the injected group with 12.8 per cent. in the injected group compared with 68.6 in the control group. Dr. Kendrick informs me that it seems logical to suppose that immunity is progressive and starts with the first injection of vaccine. The question of the duration of immunity is not settled and she informs me that if immunity will last long enough to protect during the first few years of life that they will feel gratified. The whooping cough vaccine prepared by the method of Kendrick and Eldering contains hemophilus pertussis ten million per cc. The dosage is given at weekly intervals, first dose 1 cc., the second and third dose 1½ cc., and the last dose is given in two 1½ cc. injections, one in each arm. The treatment is given in four or five injections from one-fourth to two cc. every two to five days.

SCARLET FEVER

I think that quite a lot of very encouraging research work has been done on immunizations for scarlet fever. Some authorities, however, claim that the vaccine will only prevent the rash. As a public health worker I have been weighing very carefully the fact that in instances of immunization reactions are rather severe, and in a vast majority of the cases of the disease the symptoms are very light. The percentages of mortality have been a great deal less than one per cent. and I have had occasion to observe a good many thousand cases. I am equally convinced that the vaccine as prepared by the Drs. Dick has a lot of virtue. I have had occasion to observe the therapeutic antitoxin and have noticed that the results of this are good if given early, especially in the first four days. With the Dick test I have found that it has been a wonderful help to me in controlling the disease, both as a diagnostic agent and for testing the immunity for scarlet fever.

I have never found a case of scarlet fever in one that had a negative Dick test and have never seen a desquamation in a case that showed a negative Dick. When given as a diagnostic agent I read the Dick test in twenty-four hours. I have found that a case of scarlet fever will give a negative Dick test at the end of six days.

SMALLPOX

The one word in the control of smallpox is "vaccination." We are all familiar with the method of manufacturing smallpox points. I have always used calf virus and have had no experience with chick embryo. The method of vaccination that I like is to prepare the arm with ether. It dries quickly and my percentages of takes have been very high. I like ether much better than acetone. I use the pressure method. As stated, first prepare the arm with ether and introduce the vaccine preferably on the arm, and with the needle sideways gently press through the vaccine eight or ten times and wipe the vaccine off. With this method the percentage of severe reactions is lessened materially and there is less danger of infections. It makes small scars. We caution the patient to be very careful not to break the vesicle and not to use any shields or dressing of any kind. Should the vesicle become broken and the arm develop a secondary infection it should be treated as any other infection. I am firmly convinced that vaccination lasts much longer than the three to five years that the laity believes. I want to insist that all children be vaccinated during their first year and then again in about twenty years. I find with a good scar that I have received very, very few secondary takes. If the immunity is still good on revaccination, usually within twenty-four hours I notice a small red spot that itches some for a day or two and fades away. In controlling smallpox we should see that at least 90 per cent. of first grade pupils are vaccinated. I have noticed more smallpox since I have been in Illinois than I have seen in the last fifteen years. I think that is due to the let-down in vaccinations.

DISCUSSION

Dr. H. A. Orvis, Winnetka: Typhoid fever, I believe, is prevented to a greater extent by making water supplies safe than by all other procedures combined.

The boosting method of maintaining a high level of immunity is worth study and further experiment. It may be that many immunities which are induced by doses of killed bacteria could be better maintained by a short interval single dose than by full three-dose treatment at longer intervals.

The question of antigenicity is very important, as some strains of organisms will not produce immunity at any dosage. Now that it is known how to distinguish antigenic cultures, many failures that marked past experiences can be eliminated.

Under diphtheria I have not felt that reaction to horse serum T.A.T. was due to the toxin as often as to the protein of the horse serum.

Personally I have observed very few reactions to alum precipitated toxoid.

As to whooping cough; it is characterized by a wide variation in manifestation and severity. Many negative and uncertain results of attempted immunization in the past have been due apparently to non-antigenic strains of hemophylis pertussis. Sauer, as well as Eldering and Kendrick, emphasize the need for very careful growing and selection of the organisms for preparing vaccine, to be sure they will produce antibodies.

We have some interesting figures in regard to Sauer's work, not only in cases that occurred in my territory but also in Evanston. The summary of these cases follows rather closely Eldering and Kendrick's work referred to by Dr. Farrier.

Since 1933 Sauer in his private practice has vaccinated 1,001 babies and he contrasts these with 560 cases which were not vaccinated. If we compare them by the rate per 1,000 of incidence, the rate for the unvaccinated was 196 and for the vaccinated was 16. The next group is interesting because it is a public health clinic series. The Evanston Health Department has been vaccinating their infant welfare babies since 1934 at the average age of nine months. They have vaccinated 1,377 babies, and against this number they contrast 1,100 during the same period that have not been vaccinated. The rate among the unvaccinated for contracting whooping cough is 117 while the rate among the vaccinated is seven. The combination of these groups with other small groups under observation show a total number unvaccinated of 1,730 and vaccinated of 2,453; the rate of incidence among the unvaccinated is 165 and for the vaccinated is 13 per 1,000. There is consistence in these figures. They seem to indicate slightly better than 90 per cent. immunity. It is a large volume of children over several years of experience. It combines private practice with public health clinic material where ideal home environment may not be present. If time substantiates this immunity of 90 per cent. it is an acceptable accomplishment; as good as we can get in vaccination for other diseases. (Journal A.M.A. Jan. 28, 1939).

Scarlet fever bothers me greatly as to diagnosis. We are now having an incidence of streptococcic infection, a few cases of which are called scarlet fever and others streptococcic sore throat. I suspect they are identical as to the causative agent.

Under the recent studies such as those of Zinsser, Enders and Fothergill we can come to some new conclusions relative to streptococcic infections.

Scarlet fever may be caused by several types of hemolytic streptococci.

There are several antigenic properties to each type of these streps. We have been trying to associate the disease with the erythrogenic or rash producing factor alone and disregarding some of the other antibody producing factors, such as the pyogenic factor. The antigenic properties of different types of streptococci vary quite markedly, so that one type may have a marked erythrogenic factor producing a definite rash while another produces a mild or even no rash, yet have other antigenic properties that developed highly toxic cases.

Immunization of nurses, interns and children in institutions has shown a marked reduction of incidence among the immunized. Scarlet fever immunization evidently has a place, but its application to private practice depends upon factors to be decided by the physician.

As far as smallpox goes I can say nothing except that the high incedence of smallpox in Illinois is due to the gross negligence of private practitioners and health workers in their duties toward society.

Dr. Loran E. Orr, Springfield: I would like to ask Dr. Farrier the time interval between primary vaccination and revaccination, whether I got it straight or not. I think you said you revaccinated at the end of twenty years. Is that right?

Dr. R. C. Farrier: No. I meant to say the laity are under the impression they should be revaccinated every three to five years. I have been watching that, Dr. Orr, and wondering how long you would say. I do not know how many cases of smallpox you have in the State, but we have some 30 cases around East St. Louis now. About the time we have got it all cleared up, somebody will drop in from St. Louis or elsewhere with small pox, or someone will move into a home quarantined on account of smallpox. We have been chasing them down there for about six weeks, and we have had our first case in a white family. I have had occasion to see in the last week two cases that had been previously vaccinated. One gave a history of being vaccinated twenty years ago and another of being vaccinated thirty years ago. I usually vaccinate everyone that comes up, even if he has been vaccinated two or three years ago or five years ago. And, if he is still immune, I usually get a reaction there that I consider an immune reaction. I was vaccinated when I was in high school, and about two weeks ago I had an immune reaction. I heard a medical officer from the Navy, two or three years ago, say he would recommend revaccination at least every seven years. I recommend that they be vaccinated at least twice in their life and again every time the occasion arises. That is all I can add to it. I hope that answers your question.

Dr. Orr: I probably misunderstood you. Of course, in this state we recommend they be vaccinated every five years.

Dr. Farrier: I recommend it every time there is smallpox in the community.

Dr. A. J. Levy: In regard to diphtheria immunization, I have had very favorable results with the alum precipitated toxoid in immunizing adults. I would like to know if Dr. Farrier has had similar experience with the alum. Instead of starting with 1 cc., I begin with 0.3, then 0.7 and then finally 1 cc. This method has given very good results with very few reactions. It seems to me that the alum precipitated toxoid gives a higher degree of immunity than the toxin-antitoxin. This year I have seen a good many adults coming down with diphtheria. I have also seen children who were immunized with 1 cc. of alum precipitated toxoid about four years ago, though no Schick test was done on them at that time. Nevertheless a large number developed diphtheria. This would demonstrate that one injection was not sufficient to protect the children for a long period of time.

As far as smallpox is concerned, it seems to me that we are not certain whether it is sufficient to vaccinate an individual and then assure him that he is immune for seven years, should the vaccination take. We don't do this in cases of diphtheria immunization,—give three injections and then tell the person he is immune for a certain number of years—without Schicking him. Don't you think, Dr. Farrier, it would be well to practice immunity reaction in all cases before we determine whether or not the individual is immune to smallpox? Then once an immunity reaction is observed we will feel that we have not just trusted to luck.

Dr. Farrier, in closing: I revaccinate everyone every time I can, Dr. Levy. Good!! I make a practice of vaccinating school children again about the first year after the first good take. This seems advisable in order to determine whether the child is immune to smallpox, and the immunity reaction will serve as an indication, just as the Schick test or the Dick test. The only advantage in vaccination over the Schick and Dick tests is that vaccination boosts the immunity in the individual in case he is not adequately immune, an advantage of great value.

CHOREA GRAVIDARUM. REPORT OF A CASE RECURRING IN THREE SUCCESSIVE PREGNANCIES. KLIPPEL-FEIL SYNDROME IN THE LAST NEWBORN

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In 1932 Willson and Preece[1] gave a very comprehensive summary of 797 cases of chorea gravidarum collected from the literature and from questionnaires. Among these cases were 99 (over 12%) of chorea recurring in subsequent pregnancies. Sixty-nine recurred during two pregnancies, eighteen during three, seven during four, four during five, and one during 13 pregnancies. The average age of the women with chorea gravidarum was 22.4 years and 55.5% were primiparae. The authors stressing the in-

fectious origin of the condition presented the following statistics: (1) 48.1% of 474 cases gave a history of chorea before pregnancy; (2) 35.5% of 404 cases gave a positive history of rheumatism; (3) 29.7% of 339 cases gave a history of both chorea and rheumatism; (4) 32.4% of 358 cases showed definite signs of heart disease; (5) 86.9% of the 46 cases which came to autopsy had cardiac lesions; (6) chorea minor during childhood appeared to lessen the severity of the chorea during pregnancy.

While most of those who have reported cases of chorea gravidarum regard the condition as a Sydenham's chorea occurring in pregnancy (in graviditate, not gravidarum), others[2] consider toxemia to be the essential etiological factor. A few cases have been reported[3] in which hysteria and a few others in which an endocrine disorder seemed to be the underlying causes. The same disagreement among authors exists in seeking the causative factor of chorea minor. Those who have seen severe choreas in pregnancy complicated by fever and toxic psychosis are convinced of the infectious origin of the disease. In these, usually fatal cases, an endocarditis and encephalitis are usually found postmortem. On the other hand, the mild cases, in which choreiform movements occur during the first months of pregnancy, usually accompanied by emotional instability, and without temperature, resemble other toxemias of pregnancy. In the latter cases the choreiform movements are apt to clear up or improve under rest and care with or without sedatives. Sometimes a psychic factor is suspected just as in emesis gravidarum. Yet, even these mild choreas frequently give a history of chorea or rheumatic fever in childhood, or show signs of a mitral valve lesion which usually results from acute rheumatic fever. In addition it has been observed that this childhood chorea or rheumatic fever confers a relative immunity against a severe chorea gravidarum. The fact that in some cases a few intravenous injections of serum[4] resulted in complete recovery before labor is not conclusive evidence of an underlying toxemia of pregnancy, because injections of neosalvarsan have sometimes been given with equally good results. Nevertheless, pregnancy must be an important influence in chorea, else why its reoccurrence in subsequent pregnancies and why the rapid disappearance of choreiform movements post partum in most of the cases? Why then not summarize these opinions of etiology as follows? Given a rheumatic fever and choreic diathesis in individuals of the asthenic, anemic and underweight type, complicated by the toxemia of pregnancy, or by emotional disturbances such as fear and worry, and the result is chorea gravidarum.

The occurrence of chorea gravidarum is rarer than most of the other toxemias of pregnancy. Many prominent obstetricians have never seen a case. According to Willson and Preece's tabulations only 179 cases of chorea gravidarum were reported in 270,825 pregnancies, one case in 2,275. From Guy's Hospital, London, French and Hicks report[5] only 29 cases in thirty years' practice.

The symptoms vary from a slight coarse twitching of a single extremity to violent choreiform movements of the whole body so that restraint is required. More than fifty per cent. of the cases are of the mild type. In most cases incoördinated movements of the hands prevent the patient from self-feeding and from holding objects. The gait is clumsy and there may be movement of the leg muscles even on standing and during rest. Frequently the facial and tongue muscles are affected. Hence the facial grimaces and peculiar grunting and clucking sounds which are heard. Contortions of various parts of the body, hypermotility and incoördination are characteristic. Sometimes the choreic movements are limited to one side, hence a hemichorea. In the severe cases the body is never at rest, not even during sleep, and mental symptoms, delirium or toxic psychosis, are often complications. The danger to life is often due to inanition, for swallowing of food is sometimes impossible. When fever is present a bacterial endocarditis or encephalitis is usually found postmortem. In such cases albuminuria and leucocytosis are generally present. Otherwise the laboratory findings are negative.

The prognosis depends on the severity of the symptoms. When fever and psychosis are complications the mortality rate is very high. Of 26 choreic pregnancies complicated by fever 23 died, a mortality rate of 88.4%.[6] Artificial termination of the pregnancy is generally thought to increase the mortality rate. Quoting Willson and Preece, of 171 cases terminated artificially the mortality rate was 33.3%; of all those who delivered spontaneously at term (473 cases) the

death rate was 13.1%. As for the milder cases of chorea delivered spontaneously at term (312 cases) the mortality rate was only 1.9%.

Usually the choreiform movements and hypermotility become worse during labor, but recovery postpartum in most cases is very rapid. Of 543 cases of Willson's series of cases that came to term spontaneously 30 per cent. (161) recovered from the chorea before term; 44 per cent. (240) recovered from one to five days after delivery; while in 26% (142 cases) the chorea continued postpartum, and of the latter 24 had not recovered one year postpartum.

The fetal mortality rate is of course much higher than that of the mother. In Willson's series the fetal mortality rate was 50.9%, prematurity being the predominating cause. Only two infants were born with choreiform movements, the latter promptly disappearing after a few days. Abnormality of the fetus is rare. Two infants in their series had spina bifida and hydrocephalus. One newborn died of pemphigus. One other newborn had a hydrocephalus. Campbell[7] reports a case delivered by Caesarean section; the child had a facial asymmetry and a marked microphthalmus.

The pathologic manifestations of the fatal cases of chorea gravidarum generally confirm the inflammatory and infectious character of the disease. Reference has already been made to the cardiac findings of bacterial endocarditis and other valvular changes. However, the parenchymatous changes in the liver, spleen and kidneys resemble those seen in other toxemias of pregnancy. Brian and Gerundo[8] reported in detail their findings in a case of chorea gravidarum. Besides the parenchymatous degeneration of the liver tissue they found fat vacuoles in the hepatic cells. In the spleen there was a marked atrophy of the lymph follicles, and the kidneys showed a congestion of the glomerular capillaries and edema of the tubules. In the brain hemorrhages were found in the white matter of the cortex. The nerve cells were preserved throughout the brain except in the globus pallidus. Here there was a degeneration of the nerve cells and a proliferation of glia. Creutzfeld found lesions[9] in the corpus striatum with perivascular infiltration. There were both inflammatory and degenerative changes especially in the putamen. Urechia and Elekes[10] found congestion of the brain with many foci of embolic necrosis and pericapillary hemorrhages in the caudate nucleus. Micrococci were present in the vessels. The lesions were most severe in the corpus striatum, especially in the caudate nucleus, in the olives and in the body of Luys. Jakob[11] describes emboli and resulting necrosis especially in the putamen and in the caudate nucleus, as well as a hypertrophy and proliferation of the neuroglia. In Winkelman's case the vessel walls were thickened and there were changes in the corpus striatum, especially in the caudate nucleus. There was a severe degeneration of the smaller ganglion cells, a glia proliferation and perivascular edema of many vessels. Lymphocytic perivascular infiltration was rare except in the subthalamic region. Small hemorrhages were prevalent in the thalamus and subthalamus. In the caudate nucleus there was a small area of necrosis replaced by glia. Lehoczsky-Semmelweis[13] found perivascular infiltration in the corpus striatum, thalamus, substantia nigra and putamen. Nerve cell destruction and glia proliferation went on hand in hand. Hyperemic areas were evident in the basal ganglia and lymphocytes, plasma cells and macrophages in the substantia nigra. The putamen and globus pallidus were damaged most severely. While, therefore, the basal ganglia are conceded to be the site of the greatest damage, the etiological factor is not so readily conceded, for sometimes the lesions are degenerative in character, sometimes inflammatory. The same conditions have been found in Sydenham's chorea.

The treatment depends upon the individual case. In the mild cases bed rest, good wholesome food and routine hospital care are generally sufficient to allay the choreiform movements, if not to stop them. Sedatives may be needed if the above treatment is ineffective. Phenobarbital, chloral hydrate and bromides are to be preferred to morphine. Arsenicals such as sodium cacodylate have been used, but its efficacy is more doubtful than in chorea minor. Intravenous injections of serum from normal pregnant women have been reported as successful, and should be used in the more severe cases. The value of magnesium sulphate injections has not been proved. Most important in the matter of treatment is to determine if and when to induce artificial termination of the pregnancy. The high mortality rate in artificial termination should be weighed carefully. In the very severe

cases complicated by fever, the same contraindication to operative procedure holds as in the acute infections during pregnancy. In the severe cases of chorea gravidarum artificial termination of the pregnancy usually results fatally. Of the operative intervention early abortion is preferable to Caesarean section; and the earlier the abortion the better the prognosis.

REPORT OF CASE

First admission—Mrs. F. W. first came under observation in the clinic of the Women's and Children's Hospital on Sept. 7, 1934. She was nineteen years of age, married, asthenic in type and underweight, a primipara about six months pregnant. She was referred to neurology because of choreiform movements of the left arm and leg of two months' duration. The arm was painful, preventing sleep. Besides the coarse, infrequent, involuntary movements of the left limb she did things clumsily. She was awkward and things dropped from her hands. She remembered having diphtheria in childhood and frequent sore throat. Tonsillectomy was performed at the age of thirteen. Both parents were dead. One sister, always sickly and paralyzed, died at 27 years of age. Neurological findings,—except for the hemichorea, were essentially negative. Muscle strength was good and she approximated the fingers well. The patellars were hyperactive and the abdominals on the right were not elicited. A double mitral lesion was present. The blood pressure was 120/80. The laboratory findings were negative. Phenobarbital gr. ss b. i. d. was given. The condition, never alarming, improved and she was delivered of a male child Nov. 24, 1934. During the delivery the choreiform movements became generalized including the face and were very marked. The next day, there was a suggestion of a left facial palsy, she was unable to approximate the thumb to the fifth finger and adiadokocinesis was present on the left. The chorea was quite marked especially on the right side and the right leg was somewhat rigid. Improvement set in after a few days and continued. When seen two months later the hands were fairly steady and the numbness was disappearing. She refused to be sterilized.

The newborn had generalized twitchings which lasted two days.

Second admission—Dec. 2, 1935, pregnant six weeks. No choreiform movements present. They reoccurred, however, during the fourth month. The same coarse, involuntary movements of the left hand, with athetosis of the fingers appeared. The left leg was very slightly affected. The chorea was less marked than during the first pregnancy. The heart showed the same double mitral lesion with slight right-sided enlargement. The pulse was 80. The blood pressure 114/80. The fingers were cyanosed. The urine showed one plus albumen. Medication did not seem indicated. She was delivered of a normal female child July 9, 1936. During labor the chorea became more marked. Showers of petechiae appeared over the neck and face during the second stage. She had difficulty in talking. Low forceps were used. The chorea subsided rapidly post partum. Two months later she complained of numbness in the right arm, but the choreiform movements had almost disappeared.

On Sept. 3, 1937, the patient came to the clinic complaining of a numbness of the fingers of the right hand, radiating up the arm. It began about one month previously, about the time that her second child, sick with otitis media and meningitis, had died. The patient was very much upset emotionally. When advised to be sterilized, she wept and declared she wanted more children.

The present admission—When seen Sept. 2, 1938, she was pregnant four months, para III. She had lost about ten pounds in weight and looked very ill. Choreiform movements had started again one month previously. They were bilateral and much more severe than before. Incoördination of movements was evident in all four extremities; the left hand, however, again was most severely affected. Manipulation was very clumsy and she had difficulty bringing things up to her mouth, so that self-feeding was almost impossible. She made grunting sounds constantly, and grimaces of the facial muscles were marked. The lips twitched. The gait was wabbly and the leg muscles were in constant motion even when patient was standing still. The tongue was thick and in constant motion causing those grunting or "clucking" sounds.

Physical examination—The double mitral murmurs were again heard, but the heart was compensated. There was a suggestion of club fingers. The temperature, pulse and respiration were normal. The blood pressure deviated from 120 to 130 systolic, and from 80 to 92 diastolic. The neurological findings: incoördinated, coarse, irregular movements of all four extremities and of the facial and tongue muscles. The chorea was most marked in the fingers which were athetotic. No other tremors were present. The muscle strength was good. The cranial nerves were otherwise intact. The fundi were normal, and the pupils reacted to light and to convergence. The corneal, pharyngeal and abdominal reflexes were present and equal. The Chvostek and Trousseau signs were negative. The triceps, biceps, supinators, patellars and achilles reflexes were hyperactive but equal. Adiadokocinesis of both hands, worse in the right hand, was present. The Babinski and Hoffman signs were negative. There was no ankle clonus. Sensations were intact.

Course and treatment—Small doses of phenobarital and weekly intravenous injections of sodium cacodylate (gr. xv) were ineffective. However, patient was uncoöperative. She was very much disturbed mentally accusing her husband of abusing her, and she ranted a great deal about her domestic unhappiness. Her complaints, seemingly more or less childish, were aired openly in the clinic before the patients. It then seemed desirable to ascertain her I. Q. The Stanford-Binet rating was ten years, seven months, classifying her in the group of high grade mental defectives. Her childlike reactions now became explainable, why she did

not follow out orders, why she refused hospitalization, and why she opposed sterilization.

She entered the hospital Oct. 28, 1938 and was very much improved after several weeks. She insisted upon leaving after one month's stay; but as she was losing weight and the choreiform movements became worse she was readmitted in December when she refused to stay more than one week. In the hospital she was given calcium gluconate, brewer's yeast and cod liver oil, besides bromides, and later small doses of phenobarbital as sedatives. The temperature, pulse and respirations were normal except during a few days when she had a severe conjunctivitis of the left eye. The temperature rose only once to 100°, and the pulse to 104.

The laboratory findings—Hemoglobin 80%; R.B.C. 4,450,000; R.B.C. 10,400; differential cell count, polymorphs. 72%; small lymphocytes 26%; large mononuclears 2%. The sedimentation test 11/3/38 was 25 mm/1 hour; on 11/13/38 was 16 mm. The basal metabolic rate was once +91 and again +100.9 (there was a great deal of muscular twitching about the mouth which may account for these readings). The blood sugar was 121 mg., the calcium 10 mg., the N.P.N. 30 mg., P. 3-5 mg., urea N. 15.7 mg.; the CO_2 62%; the bromsulphothalein liver test negative. During the second stay in the hospital five injections of magnesium sulphate were given intramuscularly twice daily. The patient objected to these injections. Since excitement of any kind caused an exacerbation of the chorea the injections were discontinued.

During labor on Jan. 29, 1939 the choreiform movements became more severe and more frequent involving the shoulder and face. A few days post partum the "clucking" and facial twitchings had abated, but the choreiform movements of the hands continued. Two months later these movements were still detectable in the left hand and left leg and occasionally in the face.

The Newborn—The absence of a neck, a low hair line and limitation of movement of the head were noted at her birth. An x-ray of the spine showed the normal number of cervical and dorsal vertebrae, but the seventh cervical and the first dorsal were crowded together. The first and second ribs were absent on the right, an irregular bone-like enlargement in the region of the first rib protruding as a rudiment. The first and second ribs on the left appeared fused near the axillary line. The condition is known as the Klippel-Feil syndrome, except that in the latter some of the cervical vertebrae have been found lacking or fused together.

SUMMARY OF CASE

An asthenic, underweight, mentally retarded female inclined to become hysterical on the least provocation, had a hemichorea during her first pregnancy, at the age of nineteen years. There was no history of a previous chorea or rheumatic fever, yet the patient had a double mitral lesion. During the second pregnancy the chorea, of a rather mild type, recurred. During the third pregnancy, the chorea was generalized and of a moderately severe type. She was unable to feed herself and to use either hand, and the facial movements and the "clucking" sounds were quite marked. These symptoms became worse on any excitement. Bed rest and freedom from emotional disturbance caused the choreiform movements to subside, so that the patient could care for herself most of the time. In all three pregnancies the chorea began in the third and fourth months, lasted all during the pregnancy, eased up immediately after the delivery, although incoördinated movements could still be detected several months post partum. The last newborn showed the Klippel-Feil syndrome.

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THE DOCTOR LOOKS AT HOSPITALIZATION INSURANCE

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There have, of course, for many, many years been available two types of insurance policies which have agreed to reimburse the patient for the cost of his medical and surgical fees. I refer to Workmen's Compensation insurance on the one hand and personal accident policies on the other. These two policies, however, apply only to accidental injuries and sometimes certain occupational diseases and do not ordinarily come into play when hospitalization or doctor

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bills or nursing fees are required as a result of a sickness rather than an accident. Then, too, there has in the past always been available various types of accident and health policies which have agreed to pay a weekly benefit to the insured in case he was disabled through accident or sickness, and some of these policies have contained supplementary clauses in which the insurance company agreed to increase somewhat the weekly benefits if the policyholder was confined to a hospital or required nursing services as a result of his accident or sickness.

However, none of these old style policies specifically set up any way of reimbursing the policyholder for his doctor bills as such, except where the doctor's services were necessitated by accident. Furthermore, these accident and health policies were deficient in many other ways, such as, for instance, the fact that they were very expensive or else so limited in coverage as to be worth hardly anything.

About five years ago there was launched in Texas a hospitalization plan sponsored by a local group of hospitals. The hospitals guaranteed any person a maximum of three weeks' free hospitalization in any one year for a premium of around $9.00 to $10.00 per year. In many such plans only groups of persons, ordinarily employees of one concern, could be insured. Individuals, as such were barred for fear of selection against the hospitals, that is, the fear that all ailing persons would immediately subscribe to the plan whereas only a small percentage of healthy persons would subscribe, so that the hospitals would not secure a true cross-section of the real risk involved.

Shortly after the creation of these hospital-sponsored plans, the insurance companies (both life insurance companies and casualty insurance companies) sensing a new and popular demand for this type of thing, brought out competing policies in which they agreed to pay a policyholder $4.00 or $5.00 or $6.00 a day (an additional amount for laboratory fees, x-ray examinations, medicines, bandages, etc.) for every day he was confined to a hospital.

Under the combined impetus of the hospital-sponsored plan and the new hospitalization policies of the insurance companies, the new idea took on quickly and spread like wildfire. We in the insurance business were astounded at the spontaneous demand for this type of thing on the part of almost everybody we talked to. Suddenly everybody we met seemed to be obsessed with the idea that they might have to go to the hospital tomorrow and would not have the money to finance a stay in such an expensive hostelry.

Soon the insurance companies experienced a demand on the part of persons who had been hospitalized for some type of coverage to pay, in addition to the hospital bills, surgical fees incurred while confined in the hospital. The insurance companies found it inexpedient, however, to cover these fees by merely setting up a lump sum of indemnity which could be drawn on by the insured to pay such expenses. After consultation with medical authorities they adopted instead a surgical operation schedule which varied somewhat with different companies but which, on the whole, sets up fairly adequate amounts up to which the insurance company would pay for each operation.

There was some demand also for coverage for nursing fees and doctors' bills for hospital calls, office calls and house calls. Some hospitalization policies were extended to cover these items. Usually a maximum figure was set as a limit of the Insurance Company's liability per doctor's call, and another limit set on the number of calls that would be paid for as a result of any one accident or sickness. A maximum indemnity per day was fixed in the policy for nursing fees. Ordinarily a policyholder could buy his hospitalization policy in such a way that it covered only his hospitalization costs or he could add to it, if he wished, surgical fee benefits and in some cases he was permitted to cover also the fees for doctors' calls and the nursing fee benefit.

These hospitalization expense policies, as they are called, have therefore now developed so that they provide fairly complete coverage for all expense other than loss of time arising out of a disability whether caused by accident or sickness.

There is, however, considerable variation between policies depending on the organization that underwrites them, the cost of the contract, and the policy terms and conditions. There are in Chicago two hospital-sponsored organizations, incorporated not for profit, one called the Plan for Hospital Care, the other called Associated Hospital Service of Illinois, Inc. There are, in addition, scores of life insurance and

casualty insurance companies, some writing a standardized broad contract and some writing their own particular brand of policy. I will not try to analyze or compare for you all the types of contracts available. I will be satisfied to outline the three types of policies now most widely sold and with which you are therefore most likely to come in contact. These are:

1. The group hospitalization and surgical fee contract now standard with the large life insurance and casualty companies.

2. The contract of the Plan for Hospital Care, the larger of the two local hospital-sponsored plans.

3. The chief characteristics of the individually sold hospitalization policies and the commonest "jokers" in such policies.

In regard to the first of these (the standard Group Hospitalization Policy):

a. It is written almost exclusively by large, first-class companies.

b. It is written only for groups of 50 or more employees of one concern.

c. It is sold only on the payroll deduction basis, that is, the premiums are deducted by the employer from the paycheck of the employee.

d. Good health on the part of the insured persons is not necessary to secure the insurance, unless an employee fails to insure when he is eligible for insurance, but seventy-five per cent. of the employees must apply for the insurance. As a matter of fact, about ninety per cent. of the employees eligible usually take the insurance.

e. It pays $3.00, $4.00, $5.00 or $6.00 for each day of hospital confinement, the amount of benefit that may be purchased by each employee being determined by the employer. In addition, it pays for special hospital charges (such as anesthetics, x-rays, laboratory fees, etc.) up to a sum equal to five times the daily hospital benefit.

f. A policyholder must be confined in a hospital for at least eighteen hours to qualify for benefits.

g. The Insurance Company has *not* the right to cancel any insured person, although any insured person may cancel his own coverage any time he wishes.

h. All accidents and sickness disabilities are covered except those already covered by Workmen's Compensation or Occupational Disease insurance.

i. The policy usually pays for hospital confinements up to thirty days for any one continuous disability; for a slightly higher premium it may be made to pay up to seventy days.

j. Covers only hospitalization expense and surgical fees; covers no nursing fees or doctor's fees for office, house or hospital calls.

k. Persons seventy years of age or older are not eligible for this insurance.

l. Salaried representatives of the Insurance Company usually solicit each employee and explain the policy to him personally.

m. The employer frequently pays part of the premium as a gift to his employees, but not always.

n. Each group is written on an experience rating basis providing for reduction in rate if the claim experience is satisfactory.

o. The Insurance Company pays benefits direct to the policyholder, not to the hospital or doctor direct, thus preserving for the policyholder entire freedom in his choice of hospital and surgical care and preserving for the hospital and surgeon entire freedom in determining the fees to be charged.

In regard to the second general type of hospitalization policy (those sponsored by the hospital associations), we have selected the Plan for Hospital Care as typical.

a. It is operated by Hospital Service Corporation, an organization of good standing.

b. Insurance is sold only to groups of five or more.

c. Premiums must be paid by payroll deduction, except when this is impossible.

d. There is no age limit, although the Plan reserves the right to cancel the policy at any time by giving twenty days' notice.

e. Forty per cent. of the eligible group must apply for the insurance when there is a group of fifty or more persons; when there is a smaller group a higher percentage of enrollment is required.

f. This policy does not require eighteen consecutive hours hospital confinement to qualify for benefits.

g. The policy covers the following:

Twenty-one days of hospital care *in any one year*. This compares with 30 or 70 days for *any one illness* as covered by the Group Policy

just discussed; bed and board in semi-private rooms, two, three or four beds in a room; if a member wants a private room, the Plan will pay $4.50 a day toward its cost and, in addition, will pay for the other service listed here; general nursing service; unlimited use of the operating room; all anesthetics; all anesthesia services if administered by an employee of the hospital; all dressings; all medications except oxygen, antitoxins, vaccines, and other biological serums in treatment dosages, and except physical therapy; physical examinations (diagnostic services) including pathological and laboratory services, and x-ray examinations (plates or pictures, not treatments), if these services are performed by an employee of the hospital, when necessary to, incidental to, and concurrent with hospital care and treatment for illness or injury. These services are provided when requested of the hospital by the attending physician. In addition to the above bed care for illness or injury, the following services are provided to members when they do not need bed care—emergency hospital service to an accident victim, immediately following the accident, and hospital service to surgery patients at the time of the operation.

h. This type of policy does *not* cover the following which *are* covered by the group hospitalization policies of the insurance companies discussed above:

Quarantinable contagious disease, mental disorders, pulmonary tuberculosis, venereal diseases and conditions known to exist and to require hospital care when the insurance was taken out (tuberculosis and other contagious diseases account for about 10 per cent. of all hospital cases).

i. Like the Insurance Company's policy, this Plan policy will not pay benefits for accidents or diseases covered under Compensation or Occupational Disease Laws.

j. The Employer may pay part of the premium, but generally he does not.

k. There is no provision for a reduction in premium rate if the claim experience of the group is particularly good.

l. The Plan for hospital care does not solicit the group individually; its representative addresses a meeting of Department heads and explains the Plan to them, and they in turn explain the matter to the persons in their charge and distribute literature and application blanks.

m. This type of policy does not cover surgical fees, medical calls or nursing fees. The Group Hospitalization policy of the Insurance Companies does frequently cover surgeon's fees.

n. This hospital-sponsored type of policy always pays its benefits direct to the hospital, not to the policyholder. Further, the policyholder is required to use a "Plan" hospital, that is, one of the hospitals (listed in the policy) that has a contract with the Plan for Hospital Care, except in case of accident or emergency illness. The policyholder's freedom of choice and the hospital's freedom to determine its own charges are therefore, under this type of arrangement, somewhat curtailed.

The third general type of policy is the individually-issued hospitalization and expense policy. In regard to these:

a. The Insurance Company always requires the insured to sign an application which asks questions about physical history, medical care in the past and turn-downs for insurance.

b. The Insurance Company always reserves the right to demand a physical examination or refuse to issue the policy.

c. The Insurance Company always has the right to cancel on short notice.

d. The age limit is usually 60 or 65.

e. The maximum hospital confinement for which the policy will pay varies from 21 to 90 days.

f. The policy may cover just hospitalization expense or it may cover also surgical fees and/or medical calls and/or nursing fees.

g. The contract may have some or none of the following exclusions:

(a) Quarantinable contagious disease
(b) Infantile paralysis
(c) Mental disorders
(d) Tuberculosis
(e) Venereal disease
(f) Simple rest cure
(g) Diagnostic work which could be performed by the attending physician outside the hospital

h. These policies always provide a cash indemnity for the policyholder, they never pay the hospital direct.

i. . These policies are written by all kinds of insurance companies—good, bad and indifferent.

Sometimes dependents, that is, in most cases, wives and children, may secure hospitalization policies at cheaper rates than the income-earning policyholder as a kind of supplement to his insurance. There is as yet no uniformity in regard to this, however, the rate for dependents in some cases being the same as for other persons. On all *group* hospitalization expense policies, however, the rate for dependents is less.

Pregnancy and its complications, such as miscarriage, are in most hospitalization policies considered a sickness for the purpose of claim and are covered, but sometimes for a shorter period of hospitalization than other disabilities. In most cases pregnancy is covered only after the policyholder has carried the policy for ten months or a year, but in the case of the Standard Group Policy of the large insurance companies, it is covered immediately.

Let us examine for a minute a typical surgical fee schedule in one of these hospitalization policies which covers surgeons' fees. It may be interesting to you to note the maximum fees for the various operations as scheduled in this list. It should be noted, however, that sometimes a concern will buy a group policy which will provide for only three-quarters or two-thirds or even one-half of the benefits as scheduled on the attached list. Where the benefits are so cut down, the cost, of course, is proportionately less to the policyholder or his employer.

Of course, the benefits in the attached Schedule of Operations are simply amounts of indemnity to the policyholder for surgeons' fees and have no necessary relationship to the amount of the actual fee which the surgeon may charge his patient. The Insurance Company must stipulate some maximum as a limit of liability. In many cases the actual fee may be substantially higher than the policy benefit, in a few cases it may be lower, but by and large, the average surgeon would, I imagine, be well pleased were he able to collect the amounts listed in cash and collect it *immediately* for every operation he performs.

In this connection I might make a suggestion. All policies providing payment for surgical fees and doctors' bills provides also that the insured may, if he wish, assign his benefits under the policy to the doctor. In cases where you feel that collection of your fee is doubtful, it might not be a poor idea to inquire incidentally as to whether your patient carries any such policy and if he does you might, if you wish, even go so far as to suggest that he assign to you his rights against the insurance company for the operation fee as scheduled therein "to save him, your patient, the trouble of filling out papers, collecting the check and endorsing it over to you."

I know I need not cite statistics to impress you men with the importance of this type of insurance protection for the average and below-average American. The point is that such insurance coverage is no less necessary for the doctor and hospital who treat this average and below-average American. The doctor, as you men know all too well, has been truly the forgotten man. He labors under a terrific handicap arising out of the fact that once he has performed his services, there is nothing he can do but try to collect his bill. He cannot replevin an article of merchandise. He cannot foreclose a mortgage. He cannot cancel an insurance policy which he has sold and thereby salvage some of the unpaid premium, like we in our business. If we will some day reach the point where hospital, surgical fee and medical fee insurance is as widely written as group life insurance (which is estimated to cover about seventy-five per cent. of the workers of the nation), we will have at least done as much for the doctor and the hospital as we have done for the undertaker who has, I suppose, been one of the chief beneficiaries of the widespread popularity of group life insurance. Today, between 3,500,000 and 4,000,000 persons in the United States carry Hospitalization Insurance, but the number is rapidly growing.

Approximately one person out of every fourteen in the United States is a hospital patient every year. Between a third and a half of these require surgical treatment.

There may be some question in your minds as to whether $3.00 or $4.00 or $5.00 per day hospital benefit is sufficient to provide decent hospital care. A recent survey shows that 28 per cent. of all beds in non-government hospitals are available at $3.00 or less per patient-day. Two bed rooms average $3.00 to $5.00 per day. Private rooms average $4.00 to $8.00 per day.

SCHOOL HEALTH IN ILLINOIS

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During the past few months, the committee on School Health and School Health Education of the Illinois section of the American Academy of Pediatrics has made an attempt to study the school health program in the state. Since direct interviews were impractical because of the expense and distance involved, it was decided that the questionnaire method should be used except in localities where committee members lived, and direct interviews could be held.

The decision to formulate and mail out a questionnaire was made after considerable hesitation. This method of getting information has been used and abused in widely separated fields during the past few years, and the first impulse on the part of the recipient of the questionnaire is usually to consign it to the waste basket. The committee was very agreeably surprised, therefore, at the response they received. The questions were based on suggestive material from the national committee reports as well as the local committee's concept of an ideal program.

The questionnaire was mailed to pediatricians and general practitioners scattered over the state. About ninety-five per cent. replied. A majority of the reports were from Chicago and the metropolitan area, but practically all of the cities of the state were included, as well as several smaller towns where a large part of the practice of the physician who replied is in rural districts. The schools reported were public, parochial, private, one university elementary, and one military academy.

The replies seem to indicate a prevalent interest in school health problems. Several physicians made additional comments and suggestions. It is planned to make a detailed statistical report on the replies later, classifying them according to size of community, type of school, problems presented, and strengths and weaknesses in the present program. However, several interesting observations can be made from a preliminary study of the material.

In general the situation is as follows: fifteen of the thirty-seven communities have doctors as members of the Board of Education. It is interesting that the predominance is in the medium-sized cities. Twenty have full time health officers, predominantly in the larger cities. Thirteen communities have school doctors, and of this number seven are pediatricians (three of these are in private schools). In general the appointments are made by the Board of Education, or jointly with the Board of Health, and receive their remuneration from these bodies. In the larger cities this is a monthly stipend, while in the smaller cities and towns, the physicians are paid by the call or by the hour, the hourly pay being not more than four or five dollars.

Only six communities do not have a school nurse. The ones who do, require a graduate nurse, with a majority showing that public health training is demanded in addition. Except in the larger communities the nurses were responsible for from two to five schools and were full time. Their duties range from morning inspection, to counseling parents, making follow-up visits, teaching health education, assisting in correcting physical defects, and in some instances testing vision and hearing.

Only two cities employ a full time psychiatrist, and one a part time. Nine have psychiatrists available to a limited degree in the community through state or private resources such as the State University, Northwestern University, and the Institute of Juvenile Research. Twenty school systems have a psychologist.

Nine communties require routine tuberculin tests of teachers and employees.

Eleven communities require entrance health examinations, some request annual examinations, others examine every three years, and some never. The time allotted for the examinations varied from four to thirty minutes per child. Time given to advising parents varied from no time to fifteen minutes. Arrangements for carrying out the doctor's recommendations are generally made through the school nurse to the parents or the family physician. Parents, in the great majority of instances, are encouraged to seek the advice of their private physicians. Inspection after illness is required only in a few instances, varying from a request for a doctor's certificate or nurse's inspection to no inquiry.

In most communities, schools urge immunization to diphtheria and smallpox by advice to the

We wish to thank Miss Martha Crumpton Hardy, Ph.D., of the Elizabeth McCormick Memorial Fund, Chicago, for statistical help.

parents; the majority of schools having information relative to this on file. One school reports doing Shick tests as part of the educational program.

Special opportunities for physically and mentally handicapped children were reported by twenty-five cities. These opportunities varied from sight-saving classes to special rooms or schools for the blind with specially trained teachers. In two cities transportation was provided for the crippled to another community which had a special school where treatment or reeducation could be prescribed.

In twenty schools, children needing corrective training received it under the direction of the physical education department. In one instance the program is under the direction of the school physician and consulting specialists in special classes or in the community hospital.

Only four communities do not report having health and safety education which in general is the responsibility of the teacher. In many instances she is assisted by the health department and the police safety division. In two localities, specially trained teachers carry on the health and safety education.

Twenty-two physicians report that their community conducts some type of organized summer round-up and twelve report none. Of those who do conduct it fourteen feel that it has value and eight feel that it has very little or no value.

Of the thirty-seven inquiries, sixteen reported having regular dental examinations, usually by a part time dentist; one of these reports dental care to the indigent through the fourth grade; a second reports annual corrective work by four dentists working part time, five or six hours a day.

Concerning a program for medical care for those unable to pay, outside the large cities where clinics are available there is practically no organized or community plan for caring for such children. In a few cases the township or the local relief agency pays for a minimum amount of the most needed care. Reports from three communities stated that they depend on the volunteer services of private physicians and dentists.

Nineteen physicians think their community is receiving some help from State and Federal funds for school health and school health education. Information concerning this point appears to be very indefinite. Practically all of such aid is for crippled children and for sight-saving work.

COMMENTS AND SUMMARY

It appears from an examination of the material that a majority of the medium-sized communities are recognizing the value of having a physician on the Board of Education. It is disappointing that the larger communities have not followed suit. As would be expected, a majority of the larger cities have full time health officers but only a small percentage of those are pediatricians.

The school nurse evidently has become acceptable to a majority of the communities. It would seem that in some cities her work is spread over too wide a territory.

One of the outstanding lacks indicated was in the field of mental hygiene. Since more knowledge is becoming available yearly on the effects of personality growth and development as related to childhood experiences, it seems unnecessarily wasteful to ignore and neglect resources available to aid in the amelioration of present or latent difficulties as found in the child population of the state. The study woulld seem to indicate a widespread neglect of diagnosis and treatment of early manifestations of behavior difficulties in the schools.

Only a few of the communities require routine tuberculin tests of the school personnel. It would be interesting to note whether more communities will adopt such a program as the importance of it becomes more acceptable. More education along these lines seems indicated.

Few communities approach the ideal of a yearly examination of all school children either by the private physician or school. In most instances, where examinations are held, the time allotted for them is too brief and there seems to be no uniform method of informing or advising with the parents about the findings.

Many of our cities, towns and rural districts are not very active along school health and school health education lines. We can probably apply this to a majority of the school communities in the state for our reports are from those communities where the physicians are interested in this work and are at least aware of what is and what is not being done. It must be remembered that our reports represent only urban and village districts with two or three exceptions.

At present it appears that only two groups of children are receiving anything approaching suitable care; those needing immunizations, and crippled children. This is commendable; however, there are many school districts in the state where there is no program for any kind of immunization procedures. Exclusive of the above two groups there are thousands of children entering school each year whose parents may think they are "healthy" but who do have remediable medical and dental conditions.

It would seem from the study that the larger communities are giving more opportunity to the handicapped child than the smaller communities and that there has been a serious lack of resources for them there.

The replies show that physicians have little supervision over the children needing corrective training, and that in a large majority of instances it is left entirely to the physical education department.

Less than one-half of the communities reported regular dental examinations.

It would appear that we are not utilizing to the fullest extent a plan which is beginning to be more widely recognized each year. We refer to the so-called "summer round-up." This is a procedure initiated by the national Parent-Teachers Association. An examination form is used with space for recommendations by the examining physician and dentist and a detachable portion which can be certified by the physician and dentist who do the corrective work advised. This examination should be made early in the summer preceding the child's entrance to school so that time is allowed for the private physician or clinic to do the corrective work necessary.

Since the activity and interest in school health work is in direct ratio to the amount of education and propaganda expended in that community, it might be well to recommend that each county medical society appoint a school health committee to cooperate with the school physician, the school nurse, the school board and the parent-teachers groups. The extensive education of the public by these groups should do much to arouse the laity to accepting the idea of improving the health of the school child. The advancement of this activity rests with the physicians, nurses and allied professional groups.

FALSE POSITIVE BLOOD SEROLOGICAL TESTS FOR SYPHILIS FOLLOWING VACCINATION FOR VARIOLA

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The recent widespread use of the presumptive serologic tests for the detection of syphilis in connection with statistical surveys has modified many conceptions as to the incidence of the disease. The surveys have also been useful in challenging our ideas as to the unimpeachabde validity of the positive test. Without discounting the value of thoese serologic tests, it is necessary to call attention to one possible source of error in the interpretation of the positive report. In these days of the glorification of sensationalism in popular medical education it is conceivable that much harm and not a little injustice may be done in the case of a false positive report, particularly when the interpretation is placed into the hands of factory superintendents and social service workers.

Restrictions on the interpretations of negative serologic reports have always been imposed with regard to the clinical findings. Such restrictions are rational also in the interpretation of the positive report, but by its very nature the presumptive test discounts the clinical findings. For that reason it is just as proper to instruct those of the laity who are concerned with serologic reports (and this includes the subject of the test) that a positive test does not necessarily mean syphilis.

Although the relative accuracy of the positive over the negative result in the presumptive test will never be called into question, the former is in noways infallible. The contrary opinion has been expressed, particularly in the earlier literature on the subject.

Kolmer[1] in the 1915 edition of his textbook, states: "Following the original communication of Wassermann and Detre, and especially after it was demonstrated that the antigen need not be biologically specific, the subject was extensively investigated by various observers, who reported securing positive reactions in many different diseases, results that we now know must have been due largely to technical errors. At

Case report from the Therapeutics Department of the Cook County Hospital.

PROTOCOL OF SEROLOGIC TESTS ON F. C.

Date	Complement Fixation Cholesteral.....	Antigen.....	Lipoid	Kahn	Laboratory
9/23/37	.....		.....	neg.	Chicago Board of Health
4/ 9/38	neg.		neg.	+++	Michael Reese Hospital
4/15/38	.....		.....	++++	Chicago Board of Health
4/21/38	.....		.....	++++	State of Illinois
4/23/38	.....		.....	+++	Cook County Hospital
5/ 3/38	.....		.....	++++	Chicago Board of Health
5/12/38	++++		neg.	++++	Michael Reese Hospital
5/18/38	++		neg.	neg.	Michael Reese Hospital
6/ 1/38	neg.		neg.	neg.	Michael Reese Hospital
6/ 6/38	neg.		neg.	neg.	Michael Reese Hospital
7/ 3/38	.....		.....	neg.	Chicago Board of Health
8/23/38	neg.		neg.	neg.	Michael Reese Hospital
9/21/38	neg.		neg.	neg.	Michael Reese Hospital

present it is known that positive Wassermann reactions may occur in a few diseases other than syphilis but not to the extent that earlier investigators would have us believe."

Kolmer cites reports of false positive reactions in leprosy, malaria, yaws (false?), relapsing fever, pellagra and scarletina. He makes no mention of false positive reaction following vaccination for smallpox. Such a case was reported by Dr. A. S. Giordiano at the 1938 meetings of the American Society of Clinical Pathologists. A similar case is reported herewith.

F. C., a student of 24, acted occasionally as a professional blood donor. He had had repeatedly negative Kahn and Wassermann tests, the last of which can be definitely set as on Sept. 9, 1937. On March 11, 1938, he was vaccinated for smallpox by the multiple prick method. A take was not immediately secured but toward the end of March, the site of the attempted vaccination erupted into what appeared to be a typical vaccination lesion. The latter persisted. On April 9, while taking the routine serologic examination required of professional donors, the Kahn test was found to be positive. This positive report was confirmed by those of other laboratories.

The possibility of a chancre occurring at the site of the vaccination was considered as well as the fact that the time of innoculation might have coincided with that of the vaccination and this possibility appeared more logical because of the latent period in the development of the lesion. Dr. David Omens of the dermatological department of the Cook County Hospital, who saw the patient on May 5, advised that a biopsy, which we had considered, be postponed, because he made mention of the fact that he had seen such cases before but could not remember them as having been reported. On his advice, the patient was watched and repeated serologic tests taken. His attitude proved justified by the subsequent developments, for a typical vaccination scab detached itself a week later.

Reports of serologic tests taken from June 1, 1938, have been consistently negative. The patient has remained well to the present time which is one year from the date of the only symptom which he presented: the apparent vaccination lesion. Although it is impossible to rule out, absolutely, the possibility of a syphilitic infection, the presumption is against this, and the conclusions are that the positive serological tests were due to changes in his blood serum induced by the vaccination for variola.

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OCCUPATIONAL DERMATOSES UNDER THE ILLINOIS' WORKMEN'S OCCUPATIONAL DISEASES ACT

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The occupational origin of certain diseases of the skin was recognized and recorded by medical authors 450 years ago, but little attention was devoted to this field until the last quarter century while in this country marked advances in the study and management of industrial skin diseases have been made chiefly during the last ten years. In Illinois the incidence of dermatoses occurring in industry may have increased in the last decades, at least proportionately with an increase of the industrial population and with the introduction of new industries, but any such increase has probably been offset considerably by reductions in disease incidence resulting from advances in manufacturing methods and by improved sanitation in factories and homes. The present active interest in this subject among Illinois physicians is therefore probably not attributable to an actual increased incidence of industrial disease. Many cases and types of occupationally acquired skin disease that were formerly only the personal concern of

*Red at the November 16th (1938) meeting Chicago Medical Society.

the patient and his physician have been brought before public scrutiny by the new occupational diseases act which has been in effect in this state since October, 1936. The skin diseases are the same but their legal status has been changed, and we should therefore devote first consideration to the law when discussing this subject, since the new law is in a large measure the stimulus for this meeting.

The type of compensation law now operative in Illinois, supplementing the older workmen's compensation act, is popularly referred to as *"blanket legislation."* In Wisconsin we have practiced subject to such legal provisions for many years and that is my apology for my temerity in coming to Chicago to discuss this subject with you. Wisconsin, the first state to adopt a workman's compensation act, began by compensating for occupational injuries in 1911 and gradually evolved over a period of years to a blanket form of legislation.

A study of Wisconsin Industrial Commission records shows that in 1934, following a period of actual decrease in industrial activities in the state, *three* times as many cases of disabling occupational disease were recorded as in 1920, with more than *six* times the expenditure for disability compensation and with *ten* times the expenture for medical aid. Actually no such increase in disease incidence occurred and this recorded increase was due to the liberalization of the compensation law.

The greater increase of disability payments over occupational disease incidence indicates probably an increase in the filing of claims subsequent to greater familiarity of both employers and employees with the requirements of the law and the opportunities afforded by it. The tenfold increase in expenditure for medical aid coincidental with a threefold increase in recorded occupational disease, may indicate that an increasing number of workmen are accepting medical aid available to them under the law instead of exercising their privilege of choosing their own doctors at their own expense. If these deductions are correct they may be of some significance in indicating possible future trends in other forms of socialistic medical practice, and these Wisconsin figures may indicate what may be anticipated in Illinois following a similar liberalization of your laws.

Although the Illinois law specifically states (Section 8) that "the employee may in any case elect to secure his own physician, surgeon and hospital services at his own expense," it is unlikely that the workman will exercise this privilege except in an unusual or occasional instance. This section of the act, defining compensation payable in cases of disability, states that "the employer shall provide the necessary first aid, medical and surgical services, and all necessary medical, surgical and hospital services thereafter, limited however to that which is reasonably required to effect a cure from the effects of the disease."

As usually happens when socialistic practices are adopted, manufacturing and other costs rise. If the payment of medical care for industrial disease does not come out of the individual workman's wages, it is charged up to operating costs, and, with compensation payments for disability, eventually comes out of the consumer's pockets. It is the responsibility of the physician handling occupational cases to keep in mind the broad aspects of this problem, and to observe the law as it applies to him by an intelligent and honest application of its rulings. To attach a tag of industrial origin to a case when in doubt may at the time simplify the management or disposal of that individual case and its fee, but is likely to create difficulties for the future. Conversely, to deny workmen services to which they may be entitled, by not carefully investigating doubtful cases, because of the pressure for economy exerted by employers or insurance carriers, will result only in discredit of the physician. The law should provide for payment of the doctor's fee for impartial investigation and diagnosis in all cases with a possible industrial relationship, and the better insurance carriers and responsible employers now accept such obligation.

A part or full-time industrial physician should not undertake the treatment of employees for sickness having no relation to industry simply because the condition appears to be minor, because it came to his attention originally as an emergency and he thinks he might as well continue caring for it, or because it may *possibly* be covered by a provision of the compensation law, *unless* the provisions of his employment specifically provide for such "all coverage" service. The industrial physician, as well as the physician in private practice, when examining industrial cases, should keep in mind that, if in an individual case the provisions of the law act adversely or unfairly to the interests of the

patient, the employer or the insurance carrier, there is nothing that he can do about it. He is practicing subject to laws that are not of his own making, and he is not even interpreting the laws. His activities are properly confined to a *medical* interpretation of the case, and he should be absolutely free from outside pressure in arriving at his conclusions. Any one employing his services may exact only a careful, intelligent and unbiased medical investigation. That is the only way in which industrial medicine can be kept on a high ethical plane, and the only way in which physicians in industry and in private practice can work together in harmony.

With these general remarks as a background, permit me to quote from the Illinois act, and comment upon its dermatologic applications.

Section 6 defines "occupational disease" as follows:

"In this Act the term 'occupational disease' means a disease arising out of and in the course of employment. Ordinary diseases of life to which the general public is exposed outside of the employment shall not be compensable, except where the said diseases follow as an incident of an occupational disease as defined in this section. A disease shall be deemed to arise out of the employment, only if there is apparent to the rational mind upon consideration of all the circumstances, a direct casual connection between the conditions under which the work is performed and the occupational disease, and which can be seen to have followed as a natural incident of the work as a result of the exposure occasioned by the nature of the employment and which can be fairly traced to the employment as the proximate cause, and which does not come from a hazard to which workmen would have been equally exposed outside of the employment. The disease must be incidental to the character of the business and not independent of the relation of employer and employee. The disease need not to have been foreseen or expected but after its contraction it must appear to have had its origin in a risk connected with the employment and to have flowed from that source as a rational consequence."

Any skin disease therefore may legally be an *occupational* disease in Illinois. "If there is apparent to the rational mind a direct casual connection between the conditions under which the work is performed and the disease under consideration." A simple example would be that of a tannery workman acquiring a dermatitis venenata of the hands and forearms following repeated contacts with chrome compounds and in the absence of irritant chemical contacts away from work, such as contact with poison-ivy or with household irritants. The examining doctor may make the diagnosis of "dermatitis venenata" or "contact dermatitis" and then should state what he believes the contact to have been. He bases his opinion on clinical observation and the information obtained from the patient, and, at times, from others, and he may amplify his report by the findings of patch tests. He submits a medical, not a medico-legal report. It is then up to the insurance investigator or the state examiner to determine whether the disease "can be seen to have followed as a natural incident of the work as a result of the exposure occasioned by the nature of the employment, and which can be fairly traced to the employment as the proximate cause, and which did not come from a hazard to which he had been equally exposed outside of the employment."

As another example, we may take a case of furunculosis in a machinist, which may be considered of occupational origin by the physician if there has been a direct contact with a similarly infected fellow workman, or if the patient has a predisposing "oil folliculitis" as the result of hair follicles in exposed sites having become repeatedly plugged and irritated by oil or grease while at his job. The definition states that "ordinary diseases of life to which the general public is exposed outside of the employment shall *not* be compensable, *except* where the said diseases follow as an incident of an occupational disease as defined." In this example oil folliculitis, an occupational disease, preceded the furunculosis, "an ordinary disease of life." Here again, the physician makes his diagnosis and states why he considers it to be occupational in origin. It is not his job to investigate the circumstances incidental to its development.

The physician is not required by law to submit written reports in all cases, but insurance companies usually expect them and usually submit report forms for that purpose. Since one cannot always anticipate developments in a case, and a minor case may become disabling or controversial, it is wise to have not only a written case record including diagnosis and opinions on etiology and disability, but to submit such information in writing to the referring individual or organization.

Section 12 provides that, in cases on which hearings are to be held, the physician selected by either the employer or the employee shall furnish to the other party an identical statement in writing of his examination and findings as

reported to the one requesting his services, unless the other party has a physician representing him at the examination. Failure to comply with this provision will bar that physician from testifying at the hearing.

Common occupational skin diseases, like the examples cited, can often be diagnosed and effectively treated by the general physician, and in particular by the industrial physician. Cases of contact dermatitis when causative agents are less obvious, are difficult to diagnose and may require exhaustive dermatologic investigation.

It is well known to dermatologists that systemic or metabolic disturbances, occasional drug hypersensitivities, rare types of food sensitivities, and focal infections with their distant sequelae, as well as direct infections, may produce skin lesions on the hands presenting the appearance of dermatitis venenata as developing following irritant occupational or non-occupational contacts. When that occurs in a worker employed in an industry with a known hazard of contact dermatitis, mistakes in diagnosis are likely to occur. Such mistakes may be aggravated by errors due to patch testing with primary irritants or to errors in interpreting the significance of patch test reactions in the presence of dermatitis. When conditions of this type are chronic they may present a complicated eczema picture.

It is well known that lesions of late syphilis may develop at sites of trauma, and probably less well known, except to dermatologists, that lesions of psoriasis, lichen planus and lupus erythematosus, as well as lesions of some other skin diseases, may make their first appearance at sites of injury and may then become generalized and of long or indefinite duration. How are such cases to be interpreted? In some states they would be automatically ruled out because of not being *"listed"* occupational diseases. Elsewhere they have been the subject of controversy and compensation. The Illinois definition rules out most, if not all, such cases by the phrase "which does not come from a hazard to which workmen would have been *equally* exposed outside of the employment." Obviously a casual injury that may localize a lesion of the kind cited may likewise occur frequently outside of employment and this qualifying phrase in the law is therefore important. Latent cerebral syphilis activitated by a severe head injury at work, or extensive ulcerative syphilis at the site of a severe lacerated wound similarly resulting from an industrial accident should be looked upon as compensable occupational diseases, at least for the period of activity, unless the injury itself is not due to a hazard of the employment, because compensation is not dependent upon any implied assumption of perfect health.

Epidermophytosis or trichophytosis, and other infections belonging to the prevalent "ringworm" group are all "ordinary diseases of life to which the general public is exposed outside of the employment," and they are therefore to be considered occupational diseases only under exceptional circumstances. I have seen ringworm of the nails in a tannery worker who hauled heavy, wet, fresh, hairy hides over a beam in a manner that resulted in repeated trauma and maceration of the finger tips and fingernails. I also recall the case of a tannery superintendent who spent much of the day tramping about at high temperature in heavy rubber boots and who took his baths only at the tannery where he stood on wet floor boards in the shower room and dressing room of the factory. I reported both cases as probably occupationally acquired instances of fungus infection, at the same time stating that I did not consider fungus infections of the hands or feet of workmen to be occupational infections under ordinary conditions of possible acquisition during work; this being an accepted opinion of most dermatologists.

The complicating inflammatory phytid eruptions frequently seen on the hands secondary to fungus infection on the feet or groins and, less commonly elsewhere, are a constant source of difficulty in differentiation from contact dermatitis of possible occupational origin. They are also the cause of controversial discussion among dermatologists as to the part they play in sensitizing the skin of the hands to subsequent occupational or alleged occupational contact dermatitis, and much has been written about them. I have witnessed the introduction at a commission hearing of a positive trichophytin test as evidence for a diagnosis of fungus infection in a contested case. It must be stated that at present the trichophytin test when positive indicates only a sensitivity to the toxin and the possibility of an antecedent or present fungus infection. It proves nothing conclusive in

a medico-legal investigation unless supported by adequate clinical evidence. In this connection it is of interest to mention the recognition by Kammer of torch oil dermatitis of the hands in steel workers who had epidermophytosis of the feet. Elimination of the non-occupational foot infection resulted in recovery from the occupational dermatitis of the hands. In these cases an associated epidermophytid condition of the hands apparently predisposed to the torch oil dermatitis. There are undoubtedly many analagous cases occurring from miscellaneous irritant contacts and from bacterial as well as fungus infections, and this possibility must be kept in mind. The feet and groins should always be carefully examined in all cases of dermatitis of the hands but one should likewise examine the entire skin surface in every case of possible occupational skin disease. What on casual investigation may appear to be an occupational contact dermatitis of the hands, may be proven to be non-occupational by objective evidence of other disease on other body surfaces.

It is an occasional observation that competent physicians, when dealing with skin diseases, do not carry out routine complete dermatologic examinations. I have seen this cause embarrassment to the doctor and sometimes unnecessary expense to the company.

Under the old workmen's compensation act, which provided coverage for dermatitis only following occupational injuries, much importance attached itself to the recognition of infectious eczematoid dermatitis as an entity distinct from "eczema." The former disease is still a frequent and important one in industry and is covered by both acts in this state. It is frequently observed both as a direct complication of injury and as the result of improper medical or nursing management of injuries, and is responsible for prolongation of disability and not infrequently for the development of a generalized resistant eczematoid dermatitis. If localized dermatitis develops in the case of an industrial injury and does not promptly respond to treatment, it is better to refer the patient to a dermatologist for the expert care such cases may require.

The cases that come before the Industrial Commission are usually the kind in which clear cut medical issues do not apply and controversy results. The physician involved may find himself the storm center of a battle of wits between opposing attorneys each of whom endeavors to build up his legal case on medical testimony exacted from the medical witnesses. The doctor on the stand must be alert to the fact that the examiner does not expect medico-legal or legal testimony from him, though the lawyer works toward that end, and often to the embarrassment of the physician.

It is difficult not to be partisan, natural for us to enjoy controversy and easy to be led into making conjectural statements. However, commission hearings are not subject to the formality of civil court jury trials, and the doctor is not always limited to "yes" or "no" answers to categorical questions. He is often permitted to discuss the question and the answer in an informal manner. The medical witness must remember that *he* is not on trial and also that *he* is not trying the case and if he will remember that and testify only as to his own *medical* knowledge and belief, and stick to that line, he will not be led into false or untenable positions.

It is not a legal offense not to know all the answers and the more experience one acquires as a medical witness the less hesitant he will be to say frankly, "I don't know whether this patient's disease is or is not of occupational origin," if that happens to be the case.

Some of you may be thinking, "well this doesn't interest me, and I won't be dragged into the witness stand." You are likely to be if you examine or treat industrial cases, and it is no hardship. Section 16, defining the powers of the industrial commission, authorizes the commission to subpoena and examine witnesses and to issue subpoenas requiring the production of office, hospital or other pertinent records, papers or books, required as evidence in an investigation. The commission or a designated arbitrator, may compel obedience by attachment proceedings for refusal to testify or to comply with the instructions of a subpoena.

Section 5, defining the term "employer," includes hospitals, public service, religious and charitable associations and corporations, but makes the exception that

"nothing contained herein shall be construed to apply to any work, employment, or operations done, had or conducted by farmers and others engaged in *farming, tillage of the soil,* or *stock raising,* or to those who rent, demise or lease land for any such purposes, or to any one in their employ or to any work done on a

farm or country place, no matter what kind of work or service is being done or rendered."

Apparently typical cases of occupational skin diseases such as large spore ringworm infection and kerion acquired in the handling of horses and cattle, blastomycosis, actinomycosis and sporotrichosis occurring in employees on farms and country places, florist establishments, tree nurseries, green houses and "where the soil is tilled," and scores of occupational skin diseases less characteristic of those occupations, but occurring in them, would be excluded from provisions for compensation. There is certainly a greater hazard to injury, inclusive of skin disease, in those activities than in many city occupations that are covered by the law and the latter is inconsistent in this case in not protecting the employees in those categories.

The inclusion of hospitals as employers liable under this act establishes the propriety of a physician charging a fee for the care of a hospital employee with an occupational disease if the hospital has insurance coverage, even though the physician may be a member of that hospital's staff.

Section 5 defines also "disablement" and "disability," and provides that no compensation shall be payable for or on account of any occupational disease, respiratory diseases excepted, unless disablement occurs within one year after the last day of the last exposure to the hazards of the disease.

Section 8 recognizes the fact that a workman may become *partially* incapcitated from pursuing his usual and customary line of employment and provides for *partial* compensation. This is an exceedingly important provision and few laws contain it. A skilled workman, taking as an example a painter, who cannot resume his occupation because of the certain likelihood of recurrent dermatitis will, after recovery, be usually denied further disability compensation but will be forced into a lower economic bracket. This same section provides compensation specifically for serious and permanent disfigurement not covered by other provisions. This would apply to extensive keloids and atrophic scars about the face and neck, resulting from occupational burns and not producing actual disability after healing of the burns.

It is apparently not recognized by the law that an occupation may be only a *contributory* factor in the development of a disabling skin disease. Provision should be made for such cases, in which the compensation should be proportional to the degree to which the occupation is responsible for the skin disease or for the disability.

It is interesting and important to note that in this law, as in other similar laws, there is no provision for medical care in *non-disabling* disease or injury. The reason for this is that the laws have been devised primarily to furnish compensation for the workman whose wages have been stopped by illness or injury. The employer and insurance carrier recognize the desirability of prompt and efficient medical care to prevent disability and therefore usually assume liability on what appears to be a voluntary basis. However, laws should specifically provide for examination and treatment of non-disabling occupational disease or injury. If a workman's case can be handled so expeditiously as to forestall or prevent disability, so much the better for all concerned.

Conservative estimates indicate that approximately 60 per cent. of occupational diseases are skin diseases and about the same percentage of these occupational dermatoses are cases of dermatitis. A large majority of these dermatitides are cases of dermatitis venenata or contact dermatitis, but a significant number must be called eczema, eczematoid dermatitis or eczematous dermatitis for want of a better name, and frequently and importantly because obscure or unknown etiologic factors do not permit a more satisfactory designation. Unfortunately, because of obscure, intangible etiologic factors many such cases last for years or through life and may cause total disability for work.

We must proceed cautiously in making a diagnosis of occupational dermatitis in a case of chronic eczema involving the hands and forearms. The condition may be an eczema of allergic origin in which the occupation may have served merely to temporarily aggravate the skin inflammation or in which an exacerbation of dermatitis may have had no relationship to the work performed. You may not know what the etiology is, but if you say that it *may* be an occupational dermatitis you may be heading for trouble.

In a previous paper I have stated that "Disabling chronic dermatitis, intractable to appropriate treatment and showing no tendency to recover after prolonged removal from the sup-

posed occupational cause, should always be locked on with suspicion as possibly having been originally a nonoccupational allergic condition."

Cases of eczematoid dermatitis in which the primary attack was due to a specific occupational sensitization, and in which frequent relapses or recurrences resulted in the development of a chronic eczema that continued indefinitely after discontinuance of employment, are the result of a gradually developed nonspecific polyvalent cutaneous sensitivity to substances come in contact with in daily life. Such cases may be further complicated by secondary bacterial and fungous infection and result in confusion with infectious allergic dermatitis.

Some cases of intractable chronic eczema of occupational origin, continuing indefinitely after removal from work, occur in elderly employees, of impaired or mediocre physical stock, with obscure foci of infection, degenerative changes in vital organs or defective metabolic processes, all of which contribute to the prolongation of dermatitis and disability.

Cases of this type are usually not seen by the dermatologist until it is too late to determine the etiology with certainty or until polyvalent sensitivities and other complications have rendered them intractable to treatment. Whether or not a case of this nature originated as an occupational dermatitis, the employer or insurance carrier can no longer escape liability. Obviously there is liability, but likewise not sole responsibility, of the employer.

In atopic dermatitis (allergic eczema) the primary shock tissue is the vascular structure of the cutis, and the epidermis becomes involved secondarily. There appears to be a hereditary abnormality or vulnerability of the cutaneous shock tissue in this group and the affected individual may possess a polyvalent sensitivity that results in acute attacks of dermatitis or in aggravations of existing dermatitis, following irritant occupational exposures.

Commonly developing in infancy or childhood and then becoming latent, to appear again in early adult life, atopic dermatitis may readily be mistaken for occupational dermatitis. Many of these cases recur or exacerbate at an age when young men and women leave school to enter industry, and this frequently occurs in autumn, when seasonal factors such as pollen exposures and cold weather may aggravate atopic dermatitis.

Even when it exists, a history of atopy may be difficult or impossible to obtain, particularly from a foreign-born laborer. The worker will admit a history of occupational aggravation more readily than he will disclose a preexisting dermatitis, hay fever or asthma, and if he had an infantile eczema he probably does not know it. Exposed surfaces of the upper extremities, face and neck are usually the sites of predilection for both atopic dermatitis and occupational dermatitis. After either condition has been active for weeks or months it defies dermatologic acumen to determine the etiology. An hereditary atopic dermatitis, aggravated by irritant occupational contacts, may yield a positive patch test to occupational materials and thus result in further confusion.

I believe that the allergist fits into this picture chiefly as a consultant to the dermatologist and I believe that if recognition is accorded to the importance of the dermatologist in the managment of these ill defined cases of the dermatitis and eczema group the interests of both workman and employer will be met most satisfactorily.

It is sometimes difficult for a layman to understand how a workman can acquire an occupational dermatitis after only a few hours of exposure to a certain irritant, especially if such exposure is followed by a latent period of several or more days before appearance of the dermatitis. It is likewise at times beyond lay comprehension how a dermatitis can develop from a material the patient has contacted daily for many years, or how a dermatitis developing in a single employee among hundreds may be occupationally acquired.

Section 25 states: "Presumption of exposure,—An employee shall be conclusively deemed to have been exposed to the hazards of an occupational disease when for any length of time however short he is employed in an occupation or process in which the hazard of the disease exists. The employer liable for the compensation provided in this Act shall be the employer in whose employment the employee was last exposed to the hazard of the occupational disease claimed regardless of the length of time of such last exposure."

There are certain trades in which special hazards exist for the development of occupational dermatoses and there are certain chemicals used in industry that are particularly liable to pro-

duce dermatitis. In some states compensation for occupational skin disease is restricted to employees engaged in these hazardous occupations or exposed to contact with such hazardous substances. Legal provisions of this kind are referred to as "schedules" and adoption of the schedule system has been recommended by both the "Committee on Standard Practices in the Problem of Compensation of Occupational Disease" of the Section in Public Health and Industrial Medicine of the American Medical Association, and by a committee on occupational disease legislation of the American Bar Association. Recognizing the risks of injury or disease in this manner is like paying higher wages for jobs entailing special risks. Reasons for recommending such limitations to legislation are probably that they conserve energies and resources to application where they are most needed, reduce abuse of the laws and reduce the economic loss otherwise accounted for by the limitations of medical diagnosis when the law is wide open.

"Blanket legislation," as applying in Illinois and Wisconsin, and several other states, is certainly fairer to the workman than "schedule legislation" because it recognizes what dermatologists have always recognized, namely, that almost any trade or occupation may be the source of a dermatosis, and any irritant chemical may be the cause of a dermatitis in a susceptible individual. The benefit in blanket legislation is all in favor of the employee; its weakness lies in the failure to take recognition of the shortcomings or difficulties of medical diagnosis, particularly as they apply to the inflammatory skin diseases. Another objection to blanket legislation is that the employer group may be forced to shoulder an unduly heavy economic burden because of liberal compensation provisions but this should result in further advances in industrial hygiene and disease prevention, just as the original compensation act resulted in advances in accident prevention.

In the course of time it will probably be necessary to add legal provisions to our present laws to more clearly define and restrict compensation for the dermatitis group of occupational skin diseases, for we cannot change the nature of disease to clarify interpretation of the law.

In the meantime we can and should devote more time and study to occupational dermatoses, their differentiation and their management, under existing legislation, and in that way increase our own efficiency and advance the practice of medicine in this large and important field.

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VERTIGO AS THE PRIMARY MANIFESTATION IN ANXIETY NEUROSIS

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An analysis of the case of a young woman in whom vertigo was the outstanding symptom of her neurosis, raises some pertinent questions about the interpretation, etiology, and management of vertigo. Cases in which vertigo is just one of several equally evident symptoms of neurosis or anxiety are commonly referred to the psychiatrist, and are discussed frequently in the psychiatric literature. Cases, however, in which severe vertigo is the one primary complaint, obscuring less obvious and often overlooked neurotic manifestations, are more frequently seen by the neurologist and neurosurgeon alone, without psychiatric consideration.

Meniere's syndrome, consisting of sudden and repeated attacks of marked vertigo, tinnitus, deafness, nausea and vomiting, progressing sometimes to permanent and complete deafness is commonly treated by section of the eighth nerve or its vestibular branch, as advocated by Dandy,[1] and a low sodium diet, as Furstenberg[2] (see also Brown[3]). According to Grinker[4], intracranial tumors, hemorrhage into the labyrinths, arteriosclerosis, infections, and (see also Dandy[5]) strangulation of the auditory neurve by intracranial arterial loops, have been suggested as etiological agents.

Frankl-Hochwart (quoted by Dandy[6]) distinguishes this "true" Meniere's syndrome from what he calls pseudo-Meniere's syndrome, which includes a less well-defined group of severe vertigos not associated with tinnitus or deafness, and for which no such specific etiological agents as those associated with true Meniere's, can be detected. The distinction between "true" and

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"pseudo"-Meniere's is not always clear. Some observers[7] think pseudo-Meniere's to be an early stage of Meniere's syndrome. Others[6] place pseudo-Meniere's syndrome on an emotional basis. Dandy[7] reports bilateral section of the vestibular nerve as treatment. That nerve section alleviates or clears up pseudo-Meniere's syndrome does not constitute proof of a non-functional origin, unless one makes the unwarranted assumption that functional disturbances of sensation are exclusively and always of central or cortical derivation. If, on the other hand, this assumption is rejected as untenable, it seems that the abnormal sensation should be eliminated by isolation of the sense organ, whether the stimulus to that organ is purely organic or purely functional.

By what objective criteria may we with assurance differentiate an organic from a functional vertigo? What of the Barany tests? French[8] says that "an increased irritability of the semicircular canals is . . . reported to be the usual finding in neuroses in which vertigo is a symptom. Barany states, indeed, that 'neurasthenia' increases in particular the duration of the horizontal nystagmus following rotation in the vertical plane." Brown[3] reports the Barany tests to be of "little help in differential diagnosis." Patroni[9] reports a case of a young man who for twelve months suffered from severe vertigo, with subjective whirling from left to right, nystagmus, and temporary deafness. The Barany varied from attack to attack in both ears. Because the patient "recovered" without treatment, Patroni concluded that vasomotor dysfunction was responsible. Unfortunately there is no history of the patient's personality, so that we cannot answer the question which is legitimately raised: Might not this case—presenting the classical pictures of true Meniere's syndrome—have been of functional origin?

It is frequently stated that "functional" vertigo may be distinguished from organic vertigo by the presence of whirling sensations in the organic variety. But in the case of depression which he was analyzing, French[8] described sensations of objects moving circularly about, and showed these sensations to be definitely a part of the functional disturbance. Whirling was also a prominent feature of the case to be reported here.

It has been suggested that vasomotor disturbances such as spasms might be responsible for disturbed vestibular sensitivity or whirling sensations. Such suggestions usually carry the implication that if this be true, the condition is of "organic" origin. But could not also a purely "*functional*" vascular spasm markedly affect the sensitivity of the vestibular receptors, modify the Barany tests, and produce whirling sensations? Indeed, might not such spasms, repeated frequently enough, produce actual structural changes in the vestibular (and even cochlear) organs?

Is the presence or absence of deafness a certain criterion for distinguishing organic from functional vertigo? On the one hand, deafness may merely mean that the cochlea as well as the vestibular organs were affected by some such change as a functional vascular spasm. On the other hand, unimpaired hearing could result from an organic lesion affecting only the vestibular organs.

REPORT OF CASE

A married woman of 34 years, the mother of two children, entered the Phipps Clinic of Johns Hopkins Hospital with this story of vertigo as the outstanding complaint: Ten and seven years ago the patient had had brief attacks of light-headedness without whirling, at a gathering of people. Six years before coming to the clinic she married, and a little later she became so dizzy at a theatre party that she had to leave. Since this time she has insisted on having aisle seats at the theatre, and has attended fewer and fewer social functions. Nine months before admission, during a serious and protracted illness of her husband, she had her first violent attack of vertigo, while she was shopping. She felt she was being rapidly whirled about. Reeling, she sat on the curbing, extremely nauseated. The severe whirling continued for five or six hours after she was carried home and put to bed. There was some diarrhea for a day.

As other equally severe attacks followed with increasing frequency, the patient developed a strong fear of leaving the house or being left alone without help. She entertained no guests for fear of an attack in their presence. Although her husband recovered from his illness three months before the patient entered the hospital, her attacks and agoraphobia continued.

At a large eastern clinic the patient was advised to go to Johns Hopkins Hospital for a nerve section. At the suggestion of a lay friend who knew some of the Phipps Clinic staff, the patient visited this clinic first. The psychiatrist who saw the patient could not be sure of the primary difficulty, but recognized evidence of emotional tension behind the story of severe vertigo. The patient was told that a period of observation would

be desirable, to determine whether nerve section was indicated.

The consultant in otolaryngology stated that the caloric tests showed hypersensitivity bilaterally, and added, "if this is Meniere's syndrome, we cannot tell which side is involved." There was no history or objective evidence of deafness or tinnitus. Neurological examination was otherwise negative, and the neurosurgical consultant thought the case to be one of pseudo-Meniere's syndrome. The blood pressure was 125-70, and the serological examination was negative.

On the ward it soon became clear that underlying the major complaint was a great deal of anxiety. Obviously it was impossible at first to determine whether the anxiety was secondary to the attacks, or a primary cause of them. In either event it was felt important that the patient broaden her activities and associate with others. Interviews soon revealed the background and sources of the patient's more immediate anxieties.

The middle child in a well-to-do family of three girls, the patient was reared in a northern town. Her father was tyrannical with her mother and sisters, and interfered with the housekeeping to such an extent that finally the mother left all such matters to him. Consequently the daughters were taught nothing about housekeeping. The mother, socially ambitious, constantly criticized the girls in their choice of companions. The patient lived in constant fear of criticism, "boiling inside," but rarely rebelling openly. She felt that she seldom did as she pleased, although she had college and travel opportunities. She was a handsome, serious-minded girl, with little sense of humor. She was much disturbed by her lack of serious admirers.

On a trip to Europe seven years ago, she met and became engaged to a handsome, prominent and very wealthy southern bachelor of 35. Married to this man, she encountered in him much of what she had experienced in her father. In the husband's family, housekeeping was at a premium. The husband, as well as his sisters and mother, were masters of the art. The patient has always felt humiliated by her own muddled housekeeping, and was greatly upset by the slightest suggestion from her husband. The chief source of her immediate anxiety, however, was finally revealed with a great decrease in her tension and symptoms.

For the first two years of her marriage her husband was utterly devoid of all sexual interest in her, and he missed no opportunity to humiliate her, publicly or privately. He drank inordinately, causing still further chagrin. His behavior was entirely unexpected and without apparent cause. He refused to discuss his conduct with the patient. Suddenly at the end of two years he announced his desire for a child, which arrived in nine months. As this and another child grew older, the husband decreased his drinking "as an example to the children." Marital relations improved somewhat, but the patient's symptoms of dizziness increased, culminating in the attack described, during the illness of her husband nine months before her admission. With the patient's permission, the whole matter was discussed with the husband, who volunteered the following explanation of his behavior.

Three days before his marriage a friend had told him that he had no need to concern himself about contraceptives, because his fiancee had informed herself about such matters. This enraged the husband, who felt that "the first child should be allowed to come naturally." He set out to be deliberately cruel to his wife, and made it plain that she "might leave him whenever she wished." At our suggestion the patient and her husband discussed the entire matter, and thenceforth the patient showed a remarkably rapid loss of her vertigo.

This patient had developed the pattern of repressing anger and resentment toward her father, and she continued in this through the years of miserable existence with her husband. She seemed incapable of expressing her resentments, which she deeply repressed. Of significance is the fact that after her husband had informed her of the cause of his behavior, she still showed no anger at his prudish frigidity. Although it seemed clear that the patient had deeper anxieties to be relieved, she felt so well that she left the clinic after 2½ months of treatment. She remained comfortable for a month, and then she began to have symptoms of anxiety in the form of worries over trivialities about the house, fear of having been too extravagant or too niggardly, dread of the slightest criticism, increased shyness, and easy fatigubility. After four or five months she began to have mild attacks of dizziness, which have lately become more frequent but never so severe as her earlier attacks. Clearly the patient needs further analysis of the sources of her anxieties.

Since it is so difficult to differentiate organic from functional whirling sensations by objective tests or from the patient's description of his abnormal state, it is desirable that a careful psychiatric history be taken in all cases of this sort. It is unfair to the patient to conclude that neurotic elements in this case, such as fear of attacks, are necessarily consequences of the attacks, unless the history reveals no evidence of emotional instability or serious conflicts preceding the attacks, or unless there are correlated physical findings, or positive serology, or neurological changes in other systems than the eighth nerve complex.

Unquestionably a great many cases of Meniere's or pseudo-Meniere's syndrome are on a definitely organic basis primarily, bearing no relationship to the emotional condition of the patient. Yet it is important that the patient be given the benefit of a psychiatric examination if any doubt exists because the diagnosis of an organic basis for the Meniere's or pseudo-Meniere's syndrome carries with it (in some

clinics) advice to the patient to submit to a serious operation.

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1940 CENSUS WILL BRING VALUABLE VITAL STATISTICS

While the inventors of diabolic instruments of war have been ingeniously practicing their craft, the scientific forces engaged in preservation of life have made even greater progress. Records of the U. S. Bureau of the Census indicate that depletion of population by deaths on the battlefields is of relatively small account, when balanced against the results of the less publicized but equally dramatic contributions to the prolonging of human lives now being made by medical science.

It is possible, through Census records, to make interesting comparisons, for example, of death rates prevailing around 1900 and those of today. If the 1900 figures still governed, over 450,000 more deaths would occur this year in the United States than actually will take place.

In 1900, for instance, tuberculosis caused 201.9 deaths per 100,00 population. Now it causes but 53.6. Using the 1900 ratio against a present estimated U. S. population of 132,000,000, 188,500 Americans who otherwise would die are NOT dying this year from this cause alone—a cause which in the aggregate has cost more lives than the toll exacted in all the wars of history. This year, the *prevention* of deaths from tuberculosis will save more than four times as many people as the number of American soldiers killed on all the World War battlefields.

Forty years ago, influenza and pneumonia were killing about 200 people per 100,00. Now the rate is approximately 110, a saving for today at an annual rate of 117,000 lives. The diphtheria rate has been reduced from 43.3 to 2, a gain of 49,400 lives. Typhoid saving is 44,200.

The Division of Vital Statistics in the Census Bureau keeps accurate records on the 15 maladies against which medical science has made its greatest advances. These are tuberculosis, typhoid, smallpox, measles, scarlet fever, diphtheria, influenza and pneumonia, erysipelas, malaria, bronchitis, diarrhea and enteritis, cirrhosis of the liver, maternity deaths, congenital malformations and diseases of infancy, and nephritis. For these fifteen, the net reduction of deaths per year per 100,000 people has been 542, which would indicate a saving of 704,600 lives this year as against the 1900 mortality rate.

Eight causes have increased in deadliness: cancer, cerebral hemorrhage, heart disease, diabetes mellitus, appendicitis, suicide, homicide, automobile accidents. The new death rate for these is 195 per 100,000 more than in 1900, therefore their current "contribution" over the number of deaths at the 1900 rate would be 253,500. Deduct this figure, therefore, from the savings by medical science, and the net gain this year is 451,100—equivalent to the 1930 population of Arizona, or New Mexico, or Idaho, or New Hampshire, and exceeding by wide margins the total populations of Delaware, District of Columbia, Nevada, Vermont, or Wyoming.

Students of vital statistics, medical men in general sociologists, and the layman can find much to ponder over in these figures. Also to be considered are eight growing causes of death. Why are they growing? What can we do as individuals or professional men and women to combat them?

What are other general trends in American health, life, income, resources? Soon even more up-to-date statistics covering virtually every angle of economic and sociological interest in the United States will be available. The Sixteenth Decennial Census, to be taken in 1940, will inquire in detail into population, occupations, employment, housing, agriculture, drainage and irrigation, and into business and manufactures, and mines and quarries.

The economic censuses—business, manufactures, and mines and quarries—began early in January. The "domestic" enumerations are scheduled for April. Thorough and comprehensive, each census will be on a national basis and, in most cases, will be conducted as a person-to-person affair, with householders and businessmen interviewed by official enumerators direct.

The information collected in all these censuses will give a composite picture of the many affairs of the American nation and its people—a picture of tremendous value in charting the future course of the nation, the states, cities, counties, towns, and villages. Health authorities will keep a careful eye on the figures from these enumerations—when population figures go up and average employment and income fall in a certain section, health of the entire community may be endangered. When deaths from specific causes take a jump, an investigation is indicated to find out "Why?"

Thus, for these and other reasons too numerous to mention, it is essential that every citizen lend his full cooperation toward making each census a complete one. At least one phase of the 940 enumerations—the Census of Population—will touch every person in America directly, and many people will be queried on two or even more of the various schedules.

Answer to Census questions are required by law, but the same statute requires the Census Bureau to maintain its long-established policy not to disclose any facts about individual persons or establishments. Individual reports are not available to any other government department. Assnrance thus is given that reports to the Bureau will not be used for taxation, regulation, or investigation.

POLIOMYELITIS VIRUS IN STOOLS OF HEALTHY CONTACTS

During an epidemic of poliomyelitis in a children's home Kramer and his associates isolated the poliomyelitis virus from well persons. At the time of the outbreak, thirty-four children were cared for in the home. Fourteen of these were of school age (from 5 to 16 years) and were permitted considerable freedom within the home, approximately 250 neighborhood children used its twenty children were of infant and preschool ages; they were kept in an entirely separate wing of the institution and, with exceptions, had no direct contact with the older group. In addition to the regular residents of the home, approximately 25 neighborhood children used its facilities as a summer recreational center. Between Aug. 1 and 8, 1939, five cases of poliomyelitis, one fatal and the others nonparalytic, developed in the twenty infants and preschool children of the home. In these children a diagnosis of poliomyelitis was established from typical history, signs, symptoms and spinal fluid observations. Three additional children, for whom no definite diagnosis could be established, had fevers that lasted from twenty-four to forty-eight hours. Poliomyelitis virus was recovered from the stools of three out of twelve healthy children, contacts of these patients, and from two of the three children who had noticeable fevers. Thus, including the five with clinical infections who were not examined for virus, ten of the twenty children harbored poliomyelitis virus at some time during the month of August. Virus was also recovered from the stool of the day nurse in charge of the infant and preschool group of children. Virus was again recovered from stools of two children taken nineteen days after the first positive stools were obtained. Thus, counting from the date of onset of the first case (August 1) to the date of collection of the last positive stool (August 30), the minimal limit of time in which the virus might have been present in some member of the group was thirty days. Poliomyelitis did not occur in any child less than 1 year of age, but stools from three of five children in this age group yielded virus. In three of the five cases, including the one terminating fatally, poliomyelitis occurred in children with recent tonsillectomies and adenoidectomies. However, there were three other children with recent tonsillectomies and adenoidectomies in whom the disease failed to develop. The facts involved in this institutional outbreak are consistent with a theory of transfer of infection by direct personal contact. Although they do not constitute conclusive proof of this, they do offer corroborative evidence that the virus of poliomyelitis is usually spread by healthy carriers. After July 23 the only contacts had by the group of infants and preschool children within the home were with seventeen adult attendants, nine of whom were present daily and eight of whom were present from one to three times a week. One child had been traveling with his mother by automobile in New York State from July 2 to 23. Poliomyelitis developed in this child on August 8. Only one adult attendant was known to have had any association with poliomyelitis outside the institution. This man, a third year medical student in temporary charge of the institution, had played ping-pong during the first week in July with an adult in whom fatal poliomyelitis developed July 20. However, poliomyelitis virus was not recovered from the stool collected from the medical student August 10. The preschool children played daily in a small playground enclosed by a wire fence, which in turn was surrounded by a large playground used by the older children in the home and the neighborhood children. Play between the older and younger children was forbidden, but candy and other materials were passed through the fence, and the older children occasionally used the preschool children's swings. There were four cases of poliomyelitis reported within a radius of about five blocks of the home. The dates of onset of illness in these cases were July 23 and August 8, 12 and 17. A survey of 137 homes, selected at random in the same area, revealed cases of suggestive illnesses having onsets early in August, but no other cases which could be definitely called poliomyelitis. None of the fourteen older children at the home were reported has having poliomyelitis. Only two of the adult attendants had any illness of any character during the period of the epidemic. The medical student already referred to had a headache and vague pains in the neck and shoulder but no fever from August 10 to 13. The night nurse had headache, diarrhea, nausea and vomiting from August 14 to 19. Virus was not recovered from her stool specimen collected August 26.—J. A. M. A.

EVIDENCE: COURT WILL NOT TAKE JUDICIAL NOTICE OF EFFICACY OF SO-CALLED LIE DETECTOR

The defendant was prosecuted for homicide. At the trial a ballistic expert testified that in his opinion the two bullets that killed the deseased had been fired from a revolver which was found on the defendant at the time of his arrest. After all the evidence had been produced for the jury's consideration the defendant's counsel moved that the case be reopened to permit him to cause the defendant to be examined "under the pathometer, commonly known as the 'lie detector.'" The motion was denied. The defendant was convicted of first degree murder and thereupon appealed to the Court of Appeals of New York.

The only objection offered by the defendant that the Court of Appeals thought might reasonably have affected the verdict of the jury had reference to the refusal of the trial court to reopen the case to permit the defendant to be subjected to examination under the so-called lie detector. But, said the court, we cannot take judicial notice that this instrument is or is not effective for the purpose of determining the truth. The court questioned whether it could be depended on to operate with complete success on persons of varying emotional stability. The record, the court pointed out, was devoid of evidence tending to show a general scientific recognition that the device referred to as the pathometer was efficient. Until it was demonstrated that the device was recognized by experts as possessing such value that reasonable certainty would follow tests made under it, it could not be held as a matter of law that the trial court had erred in refusing to allow the defendant to experi-

ment with it. The judgment of conviction was affirmed. —People v. Forte (N. Y.), 18 N. E. (2d) 31.—J. A. M. A.

MEDICOLEGAL ABSTRACTS

Compensation of Physicians: Liability of Third Person for Medical and Hospital Services Rendered at His Request.—Morris was injured while doing farm work for the defendant. The following day the plaintiff was called on to attend the injured man. As to whether or not the defendant called him, the evidence was conflicting. According to the plaintiff physician's testimony, however, the defendant on the following day told him to render such medical treatment and provide such hospitalization as might be necessary and that he would pay for them. The plaintiff then removed Morris to his hospital. There he again examined him and made roentgenograms, an interpretation of which was given to the defendant at that time. On that occasion, according to the plaintiff's testimony, which was corroborated by that of another physician, a dentist and a nurse, the defendant again promised to pay for such services as might be rendered. The plaintiff physician entered on his account books, against the defendant, all charges for services rendered to Morris. He received from the defendant several payments by checks, in some of which he was named as payee. On June 14, in response to a statement of account, he received from the defendant another check on which appeared the notation "H. Morris Acct." Thereafter the defendant disclaimed responsibility for the medical and hospital services rendered to Morris, and the plaintiff instituted this suit to recover the balance due for those services. At the trial, the defendant denied that he had requested the plaintiff to render the services which he had rendered to Morris or that he had promised to pay for them. He offered evidence to show that the amounts which he had paid to the plaintiff had been deducted from the wages of Morris, which he continued to pay during Morris's period of disability. The jury, in a special verdict, found that on March 28 the defendant requested the plaintiff to render such medical and hospital services as were necessary but that he did not promise to pay for them. The trial court concluded that the circumstances showed an intention on the part of the defendant to pay for such services and that the plaintiff so understood. It therefore held the defendant liable on an implied contract and rendered judgment for the plaintiff. The defendant thereupon appealed to the Supreme Court of Wisconsin.

The defendant contended that in the absence of an express contract he could not be held liable for the medical and hospital services rendered to Morris at his request, since he was not legally bound to furnish such services. The Supreme Court, however, thought otherwise. As a general rule, it said, the law will not raise an implied promise to pay on the part of a person who requests a physician to render services to another unless the relation of that person to the patient is such as to put him under a legal obligation to provide the medical services requested. If there is proof of circumstances, however, including the acts and conduct of the person who calls the physician, sufficient to establish an intention on the part of that person to pay, the general rule does not apply. In the judgment of the Supreme Court, the trial court correctly refused to apply the general rule in this case.

Judgment in favor of the plaintiff physician was affirmed.—Andrew v. Brecker (Wis.), 282 N. W. 609.—J. A. M. A.

TUBERCULOSIS IN NURSES

According to Rhoads and his associates, from 1930 to 1937 inclusive fifty-two cases of tuberculosis were found in a group of 991 nurses. Ten of these were found within three months of the time the nurses came to Cook County Hospital, so that undoubtedly the nurses were already infected at the time they went on duty. Only one had a routine physical examination and rotengenogram of the chest on entrance to training at the hospital, when the tuberculosis was discovered. All the others presented satisfactory certificates of physical examination made just before their entrance. The need for roentgenograms of the chest was thus amply demonstrated. Particularly interesting was the fact that five affiliate nurses, who supposedly had been under supervision at their own hospitals up to the time they came to Cook County Hospital for training, were found to have active tuberculosis. Comparison of tuberculosis in nurses of Cook County Hospital with other groups of nurses and medical students shows that the incidence is about the same. Tuberculin testing at the Cook County Hospital has been done as a matter of routine only on the student groups and follow-up testing only for the past two years. In the relatively small group retested at the end of two years of training 62 per cent of those who originally had negative reactions to the Mantoux test now had positive reactions. Of the 778 graduates and permanent staff nurses tested after this survey was begun, 93.4 per cent were found to have positive reactions. In all likelihood tests on students at the end of three years would give comparable results. At the Cook County Hospital all students and many affiliates and graduates are required to take the regular tuberculosis service of three months. There is also exposure to active tuberculosis in the medical wards and orthopedic wards and in the children's hospital. The incidence of positive reactors among entering students is practically identical with that in other similar age groups in the general population. A striking feature of the present study is the high incidence of a family historyy off tuberculosis among those nurses in whom active disease developed (34.6 per cent of the group contracting active tuberculosis as compared with 4.7 per cent of 500 healthy nurses chosen at random from equal groups of students, affiliates, postgraduates and graduates); 23.1 per cent of those with active involvement had been on duty in wards of the tuberculosis hospital. Nearly half of the nurses with active infections who reported for examination did so because of loss of weight, indicating the value of monthly weight records for all nurses. Other symptoms were cough, fatigue, thoracic pain and fever. The nine instances in which there were no complaints but the in-

fection was discovered only by roentgenograms of the chest seem to justify the considerable expense required for roengenograms of the chest of all students and all positive reactors to the Mantoux test in the other groups. This examination is now being made. After consideration of these data a program for preventing tuberculosis among nurses at the Cook County Hospital, similar to that originally suggested by Myers (1938), has gone into effect.—J. A. M. A.

A FEW COMMON MISTAKES

1. It is incorrect to say the patient had "no temperature." One may say there was "no elevation of temperature," but it is shorter to say there was "no fever."
2. "Acute appendicitis" is common, but an appendix can not be "acute."
3. "Shot" is perhaps the most abused and overworked word in medical literature. Shot is of lead.
4. "Tubercular" means "nodular"; "tuberculosis" means "infected with the bacillus of tuberculosis."
5. "Case" must not be used for "patient," nor "cure" for "treatment."
6. "Cystoscope" is a noun and must not be used as any other part of speech.
7. It is possible to "operate a cotton-gin," but it is not possible to "operate a patient"—nor his appendix.
8. "Pathology" means the "science of disease"; it is therefore absurd to speak of "pathology in the right lung."
9. "Specific" and "luetic" are convenient to obscure meanings from patients' relatives, but syphilitic" is better in writing for the medical professon.
10. "Postive serology" is the worst type of jargon; apparently "positive Wasserman reaction is usually meant.

Society Proceedings

Coming Meetings

January 10—McDonough County Medical Society—Macomb, Lamoine Hotel, Dinner 6:15 P. M. Dr. Philip Thorek—"Differential Diagnosis of Acute Abdomen."

January 11—Union County Medical Society—Anna, Anna Hotel, Dinner 6:30 P.M. Dr. Leon Unger—"Newer Phases of Migraine."

January 11—Whiteside County Medical Society—Sterling, Public Hospital, Dinner 6:30 P.M. Dr. Arthur F. Abt—"Pros and Cons for Sulfanilamide Therapy in Infants and Children."

January 12—Will-Grundy County Medical Society—Joliet, Louis Joliet Hotel, Luncheon 12:00 Noon.

January 12—Jersey-Greene County Medical Societies—Carrollton, Baptist Church, Dinner 6:30 P. M. Dr. Joseph Baer—"The Endocrines in Obstetrics and Gynecology. Dr. Harry Poncher—"Feeding the Baby."

January 16—The Kankakee County Medical Society will hold a meeting at their Club rooms, Kankakee, at 8:00 P. M. Dr. Charles B. Puestow, Chicago, will speak on "Surgery of the Gall Bladder and Bile-Duct."

January 16—Perry Memorial Hospital Staff—Princeton—Dinner 6:00 P.M. Dr. M. P. Borovsky—"The Newly Born."

January 16—Fayette County Medical Society—Vandalia, Evans Hotel, Dinner 6:30 P.M. Dr. E. L. Dorsett—"The Management of Dystocia."

January 16—Knox County Medical and Dental Societies—Galesburg, Galesburg Club—Evening. Dr. Carroll W. Stuart—"What a Hospital Staff May Expect of Its Oral Surgeon."

January 18—The Monroe County Medical Society will hold a scientific meeting at noon at the B. Hive, Waterloo, Illinois. Dr. W. J. Morginson, Springfield, will speak on "Diagnosis and Treatment of Common Skin Diseases."

January 19—Will-Grundy County Medical Society—Joliet, Louis Joliet Hotel, Luncheon 12:00 Noon.

January 23—Iroquois County Medical Society—Watseka, Dinner 6:30 P.M. Dr. Lowell F. Bushnell—"Endocrinology."

January 24—Christian County Medical Society—Taylorville, Country Club, Dinner 6:30 P.M. Dr. Henry Buxbaum—"Toxemias of Pregnancy." Dr. Julius Hess—"The Premature Infant."

January 25—Saline County Medical Society—Harrisburg, City Hall, 8:00 P. M. Dr. W. J. Dieckman—"Eclampsia."

January 25—Logan County Medical Society—Lincoln, 7:00 P.M. Dr. Ralph Reis—"Management of the Puerperium and Its Complications." Dr. H. J. Noyes—Dental Caries from the Standpoint of Knowledge of Etiology, Treatment and Dental Caries as an Index of Nutritional Adjustment."

January 25—Montgomery County Medical Society—St. Francis Hospital, Litchfield, 4:30 P.M. Clinic—Dinner at 7:00, Elks Club—Dr. James J. Callahan.

January 26—Will-Grundy County Medical Society—Joliet, Louis Joliet Hotel, Luncheon 12:00 Noon.

February 2—Will Grundy County Medical Society—Joliet, Louis Joliet Hotel, Luncheon 12:00 Noon.

February 5—Menard-Mason County Medical Societies—Mason City, Masonic Hall, 7:30 P. M.—Dr. Irving Stein—"Forceps Delivery." Dr. Gerald Cline—"Skin Disorders in Children (Allergy)."

February 5—Physicians Club of Kewanee—Kewanee, Kewanee Public Hospital, Dinner 6:00 P.M. Dr. A. H. Klawans—"Gynecologic Difficulties as the Result of Obstetrics." Dr. A. W. Stillians—"Skin Disorders in Children."

February 6—Vermilion County Medical Society—Danville, Dinner 6:30 P.M. Dr. Elias Selinger—"Eye Diseases in General Practice."

February 7—Schmitt Memorial Hospital—Beardstown, Dinner 6:15 P.M. Dr. Craig Butler—"Feeding the Newborn Baby."

February 8—Ford County—Paxton, Middlecoff Hotel—Dinner 6:30 P.M. Dr. L. T. Gregory—Surgical subject.

February 9—Jersey-Greene Medical Societies—White Hall Hotel, White Hall, Dinner 6:30 P.M. Dr. H. C. Hesseltine—"The Recognition and Management of Urinary Tract Infections in the Obstetrical Patient." Dr. Gerald Cline—"The Prophylaxis of Contagious Diseases."

February 13—Bond County Medical Society—Greeneville, Thomas Hotel, Dinner 7:00 P.M. Dr. Sidney Levinson—"Poliomyelitis." Dr. Richard Paddock—"Pernicious Vomiting and Toxemias of Pregnancy."

February 13—Effingham County Medical Society—Effingham, Benwood Hotel, Dinner 6:30 P.M. Dr. R. S. McCaughey—"Common Colds and Upper Respiratory Infections."

Marriages

VINCENT J. GAUL, Chicago, to Miss Ruth Wigent, of Fort Wayne, Ind., in October.

PAUL RUSSELL GRIFFITH to Miss Ida Louise McCoy, both of Berwyn, Ill., November 4.

CARL FREDERICK NEUHOFF to Miss Hazel Louise Davenport, both of Peoria, Ill., October 14.

Personals

Dr. Joseph L. Baer, Chicago, addressed the Lake County Medical Society, December 5, on "Prevention of Maternal Mortality."

Dr. Otto H. Schwarz, St. Louis, discussed "Use of X-Ray in Obstetrics" before the Sangamon County Medical Society, Springfield, December 7.

Dr. Edward L. Compere, Chicago, was reelected president of the Illinois Association for the Crippled at its recent meeting in Chicago.

Ralph H. Müller, Ph.D., New York, opened a series of six lecture-conferences and demonstrations at the University of Chicago, November 6, on "Electronics in Chemistry and Technology."

A symposium on hydronephrosis was presented before the Chicago Council of Medical Women, November 8, by Drs. Elizabeth Rothfus Gischer, Elizabeth Clancy, Marie Ortmayer, Lillian Eichelberger and Eleanor M. Humphreys.

Dr. Frederick A. Jostes, St. Louis, discussed "Backache: A Manipulative Treatment Without Anesthesia" at a meeting of the Adams County Medical Society in Quincy, November 13.

Dr. Oliver E. Van Alyea, Chicago, discussed "Irrigation of the Frontal and Maxillary Sinuses" before the Rock River Valley Eye, Ear, Nose and Throat Society in Rockford, November 21.

At a meeting of the Sangamon County Medical Society in Springfield, November 2, Dr. Vernon C. David, Chicago, spoke on "Carcinoma of the Sigmoid and Rectum."

Dr. James H. Hutton, Chicago, addressed the Lawrence County Medical Society at Lawrenceville, November 1, on "Classification and Management of the Nervous Hypotensive Patient."

Dr. Milton H. Kronenberg, Chicago, read a paper before the Winnebago County Medical Society at Rockford, November 3, entitled "The General Practitioner's Approach to Industrial Hygiene."

Dr. Benjamin M. Levin, Chicago, discussed "Surgical Diseases of Childhood" before the Bureau County Medical Society in Princeton, November 21.

Dr. Roland M. Klemme, St. Louis, discussed "Surgical Treatment of Parkinson's Disease" before the Champaign County Medical Society, November 9.

A symposium on the treatment of prostatism was presented before the Chicago Urological Society, November 30, by Drs. Herman L. Kretchmer, Harry C. Rolnick and Gustav Kolischer.

Dr. William Allen Pusey delivered a public lecture in the auditorium of the Museum of Science and Industry, west pavilion, Jackson Park, January 9, on "High Lights in the History of Chicago Medicine." The lecture is sponsored by the Institute of Medicine of Chicago in conjunction with the Chicago Historical Society and the Society of Medical History of Chicago.

Dr. Irving L. Turow, Peoria, was elected president of the Physicians' Association of the Illinois State Department of Public Welfare at its meeting in Peoria, October 12; Dr. George L. Perkins, Manteno State Hospital, was chosen vice president and Dr. Jacob W. Klapman, Chi-

cago State Hospital, was reelected secretary-treasurer.

The speakers before the Chicago Pediatric Society, December 19, were Drs. Philip L. Aries on "An X-Ray Study of the Osseous Development in the Newborn with Special Reference to Congenital Syphilis" and Ernst Gellhorn, "Clinical Implications of Recent Studies on Anoxia and Asphyxia."

Among the speakers before the Chicago Laryngological and Otological Society, December 4, were the following: Drs. J. Allan Weiss on "Mucocele of the Frontal Sinus"; Robert Henner, "Endaural Complete Mastoidectomy and Attico-Mastoidectomy," and Frank J. Piszkiewicz, "Nasopharyngeal Tuberculosis"; all are members of the staff of the Illinois Eye and Ear Infirmary.

Dr. Paul H. Harmon, formerly director of the crippled children's bureau for the state department of welfare of Illinois and instructor in orthopedic surgery at the University of Chicago, has been appointed to the staff of the Guthrie Clinic and Robert Packer Hospital, Sayre, Pa., as orthopedic surgeon, effective January 1.

At a meeting of the Chicago Gynecological Society, December 15, the speakers included Drs. Ralph E. Campbell, Madison, Wis., on "Angular Pregnancy"; Louis Rudolph, "Pseudo-Uterus Bicornis," and Morris Edward Davis, "Stilbestrol, a New Synthetic Organic Estrogen: A Clinical Study."

Dr. Max Thorek addressed the Lackawanna County Medical Society at Scranton, Pa., on December 19, on "Electrosurgical Obliteration of the Gallbladder (Report of 689 cases)."

Dr. Aaron Samuel Leven was the guest speaker at the Alpha Omega Dental Society meeting held at the Hotel La Salle, on November 29, 1939. The subject of his address was, "My Impressions of the U. S. S. R., with Particular Attention to the Medical Problem."

Dr. Clayton J. Lundy spoke before the Winnebago Medical Society, December 12. His subject was "The Diagnosis and Treatment of Arteriosclerotic Heart Disease, Including Complications."

Dr. S. L. Governale read a paper on Biliary Diseases before the Porter County Medical Society, November 28.

Dr. Charles B. Reed will give a paper on "Sterility" and Dr. Gus Wienfeld on "Mental Hygiene" before the physicians of Kewanee on January 2.

Drs. M. Herbert Barker, H. A. Lindberg and William L. Winters presented a symposium on "Pneumonia" before the Vermilion County Medical Society at Danville on January 2.

Dr. Kellogg Speed is scheduled to speak on "Fractures About the Elbow Joint" before the doctors of the Madison County Medical Society on January 5.

Dr. Willard L. Wood was the guest speaker at the monthly meeting of the Milwaukee County and City Medical Society, November 11. The subject was "Arthritis."

Dr. O. E. Van Alyea addressed the Rock River Valley Eye, Ear, Nose and Throat Society at Rockford, November 21. His subject was, "Irrigation of the Frontal and Maxillary Sinuses."

Dr. Charles M. McKenna was the guest speaker at the meeting of the Southeastern Branch, American Urological Association, held at Biloxi, Mississippi, December 8, 1939. The subject of his address was, "Some Anomalies of the Lower Genito-Urinary Tract in Children, with Special Reference to the Transplantation of the Ureter for Exstrophy of the Bladder."

Dr. Samuel M. Feinberg was invited to speak to the Kings County Medical Society and the Academy of Medicine of Brooklyn, at Brooklyn, New York, on December 19. The subject of his talk was "Inhalant Allergy: Recent Experiences."

Dr. C. O. Schneider spoke at a free public lecture at the Auditorium of the Chicago Academy of Science, Sunday, December 17, on "Nature's Architecture" showing some of the recent advances in color photography.

News Notes

—The Chicago Society of Internal Medicine was addressed November 27 by Drs. Michael H. Streicher on "Appendicitis — Incidence of Amebiasis in a Clinical Review of 3,407 Cases"; Ralph B. Bettman and Gemma M. Lichtenstein,

"Acute Cholecystitis," and Laurence E. Hines, Allen H. Hoover and Edwin Graff, "Effect of Sulfanilamide on the Fibrinolytic Activity of Hemolytic Streptococci."

—The Tuberculosis Institute of Chicago and Cook County through the Theodore B. Sachs Memorial Fund has made $1,000 available to support a study on bronchiectasis and pulmonary abscesses at the University of Illinois College of Medicine. The work is being conducted by Drs. Felix Basch of the department of pediatrics and Paul H. Holinger of the department of otolaryngology.

—Dr. Marshall Davison, chairman of the surgical division of Cook County Hospital, has been appointed medical director of the hospital, a newly created position. In this capacity Dr. Davison will coordinate and correlate activities of the staff and have jurisdiction over all medical and surgical work at the hospital. Dr. Karl Meyer will continue as medical superintendent. Dr. Davison graduated at the University of Illinois College of Medicine in 1920. He is assistant professor of surgery at Northwestern University Medical School.

—At a postgraduate medical conference in Champaign, December 7, an ingenious device was used to assist speakers in staying within the twenty minutes allotted for papers. A stop-and-go light on the table showed green as the speaker began his address, turned yellow when three minutes was left and red when the twenty minutes was at an end. The apparatus was made by local men and, according to the secretary of the state medical society, Dr. Harold M. Camp, Monmouth, it is recommended for keeping speakers from running over specified time limits. The Champaign conference was the second in a series sponsored by the state medical society; 208 physicians representing sixty-five cities and towns in thirty counties attended.

—The sixty-sixth annual meeting of the North Central Illinois Medical Society was held in Bloomington December 12. The speakers included:

Dr. Benjamin Markowitz, Bloomington, Jaundice Types.

Dr. Emil D. W. Hauser, Chicago, Problems of the Foot.

Dr. Milton G. Bohrod, Peoria, Biopsy of Lymph Nodes for Diagnoses.

Dr. Aaron Arkin, Chicago, Blood Dyscrasias.

Dr. LeRoy H. Sloan, Chicago, Neurologic Problems.

Dr. James Herbert Mitchell, Chicago, Differential Diagnosis of Cutaneous and Mucous Membrane Syphilis.

Dr. Norris J. Heckel, Chicago, Newer Advances in the Treatment of Infections of the Genito-Urinary Tract.

Dr. Edwin M. Miller, Chicago, Fractures About the Elbow.

Dr. Warren H. Cole, Chicago, Surgical Aspects of Diseases of the Pancreas.

Dr. M. Herbert Barker, Chicago, Hypertension.

Drs. Robert S. Berghoff and Donald A. Hirsch, both of Chicago, conducted a heart clinic.

—Northwestern University will receive $1,500,000 and the University of Chicago $1,000,000 under the will of the late Mrs. Clara A. Abbott, widow of Dr. Wallace C. Abbott, founder of the Abbott Laboratories in North Chicago. The money in both instances is to be used for medical, surgical or chemical research. It was announced that the Physiological Building at the University of Chicago would be renamed Abbott Memorial Building, while Northwestern plans to give the name of Abbott Hall to the eighteen story dormitory which is being erected on the Chicago campus. The bequest to the University of Chicago assures an additional grant of $1,500,000 to the university from the Rockefeller Foundation, which in 1938 offered the grant for research in the biologic sciences on condition that the university obtain an additional $500,000 by 1941.

Deaths

BERNARD OLIVER AMBERSON, Chicago; Rush Medical College, Chicago, a Fellow, A. M. A.; 1929; aged 37, died, October 18, at Manteno, Ill.

DAVID BAKER, Colonel, U. S. Army, retired, Waltonville, Ill.; Barnes Medical College, St. Louis, a Fellow, A. M. A.; 1893; fellow of the American College of Surgeons; veteran of the Spanish-American War; was

commissioned an assistant surgeon in 1898, a captain in the medical corps of the U. S. Army in 1903 and rose through the various ranks to that of colonel in 1917; retired in 1935 by operation of law; aged 68; died, September 8, at Fort Sam Houston, Texas.

ULRIC ANTONIO BEDARD, Kankakee, Ill.; Rush Medical College, Chicago, 1894; aged 73; died, November 11, of coronary thrombosis.

EDWIN MERVILLE BENNETT, Paris, Ill.; Indiana Medical College, School of Medicine of Purdue University, Indianapolis, 1906; member of the Illinois State Medical Society; served during the World War; aged 72; died, October 14, of coronary thrombosis.

HOMER CHAMBLISS, Cairo, Ill.; Meharry Medical College, Nashville, Tenn., 1924; member of the Illinois State Medical Society; aged 40, died, November 8, in the Passavant Hospital, Chicago.

GEORGE W. FOCKLER, Delavan, Ill.; Jefferson Medical College of Philadelphia, 1887; aged 76; died, October 28, of carcinoma of the prostate.

ANTON PHILIP FREUND, Chicago; Bennett Medical College, Chicago, 1911; served in the U. S. Public Health Service; on the staff of the American Hospital; aged 76, died, October 15.

OSCAR BRUNK FUNKHOUSER, Chicago; College of Physicians and Surgeons of Chicago, a Fellow, A. M. A.; School of Medicine of the University of Illinois, 1907; Northwestern University Medical School, Chicago, 1909; aged 53; died, October 17, in the Washington Boulevard Hospital of mitral insufficiency.

GEORGE WASHINGTON CASSADY, Chicago; Jenner Medical College, Chicago, 1900; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1908; aged 72; on the staff of St. Elizabeth's Hospital, where he died, October 10, of pernicious anemia.

DAVID LEONARD HEDBERG, Evanston, Ill.; Northwestern University Medical School, Chicago, 1909; served during the World War; at one time police surgeon; aged 61; died, November 19, in the Veterans Administration Facility, Dearborn.

CHARLES ROHRER KISER, Madison, Ill.; Medical College of Ohio, a Fellow, A. M. A.; Cincinnati, 1895; past president of the Madison County Medical Society; aged 72; died, November 5, in a hospital at Hamilton, Ont., of a skull fracture received in an automobile accident.

WILLIAM M. LOTTRIDGE, Littleton, Ill.; Columbus Medical, 1880; aged 89; died, October 21, of heart disease.

BERTRAM A. MARTIN, Mineral, Ill.; Northwestern University Medical School, Chicago, 1893; aged 69; died, October 30, in the J. C. Hammond City Hospital, Geneseo, of heart disease.

FRANCIS M. MARTIN, East St. Louis, Ill. (licensed in Indiana in 1898); aged 85; died, October 23, in Belleville of bronchopneumonia.

JACOB JOHN MINKE, Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1909; served during the World War; physician in chief to the Oak Forest (Ill.) County Infirmary; aged 56; died, October 1.

ROSCOE ADDISON MITCHELL, Marshall, Ill.; State College of Physicians and Surgeons, Indianapolis, 1907; member of the Illinois State Medical Society, for many years bank president; served during the World War; aged 60; died, November 12, at the Paris (Ill.) Hospital as the result of a cerebral hemorrhage.

CLIFFORD MITCHELL, Chicago; Chicago Homeopathic Medical College, 1878; formerly professor of renal diseases and clinical urology at Hahnemann Medical College and Hospital; aged 85; died, October 19.

CHARLES EUGENE PARKER, Sterling, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; a Fellow, A. M. A.; on the staff of the Public Hospital; aged 69; died, October 23, of arteriosclerosis.

WILLIAM STANLEY REILLY, Joliet, Ill.; St. Louis University School of Medicine, 1917; served during the World War; aged 47; died, September 26, in the Veterans Administration Facility, Hines.

EMIL REISS, Chicago; Kaiser-Wilhelms-Universität Medizinische Fakultät, Strassburg, Germany, 188; past president of the Jackson Park Branch of the Chicago Medical Society and of the Chicago Gynecological Society; member of the Central Association of Obstetricians and Gynecologists; aged 74; died, November 14, of coronary occlusion.

OLIVER JAMES ROSKOTEN, Peoria, Ill.; Rush Medical College, Chicago, 1882; a Fellow, A. M. A.; an Affiliate Fellow of the American Medical Association; aged 81; died, November 5.

FRANCIS MARION SANDERS, Herrin, Ill.; St. Louis College of Physicians and Surgeons, 1904; member of the Illinois State Medical Society; was a member of the school board; aged 72; died, October 19, of heart disease.

ARTHUR P. SHEARBURN, Walnut, Ill.; Chicago Homeopathic Medical College, 893; member of the school board and formerly mayor; aged 77; died, October 8, in the Julia Rackley Perry Memorial Hospital, Princeton.

WALTER N. THOMAS, Chicago; Reliance Medical College, Chicago, 909; aged 59; died, October 18, of coronary occlusion.

GUY WATTS WAGNER, a Fellow, A. M. A.; Chicago; Northwestern University Medical School, Chicago, 1899; served during the World War; on the staff of the Henrotin Hospital; aged 65; died, October 7.

WILLIAM WALTER WYATT, Peoria, Ill.; Illinois Medical College, Chicago, 1903; member of the Illinois State Medical Society; served the Methodist Hospital in various capacities; aged 74; died, October 22, of coronary thrombosis.